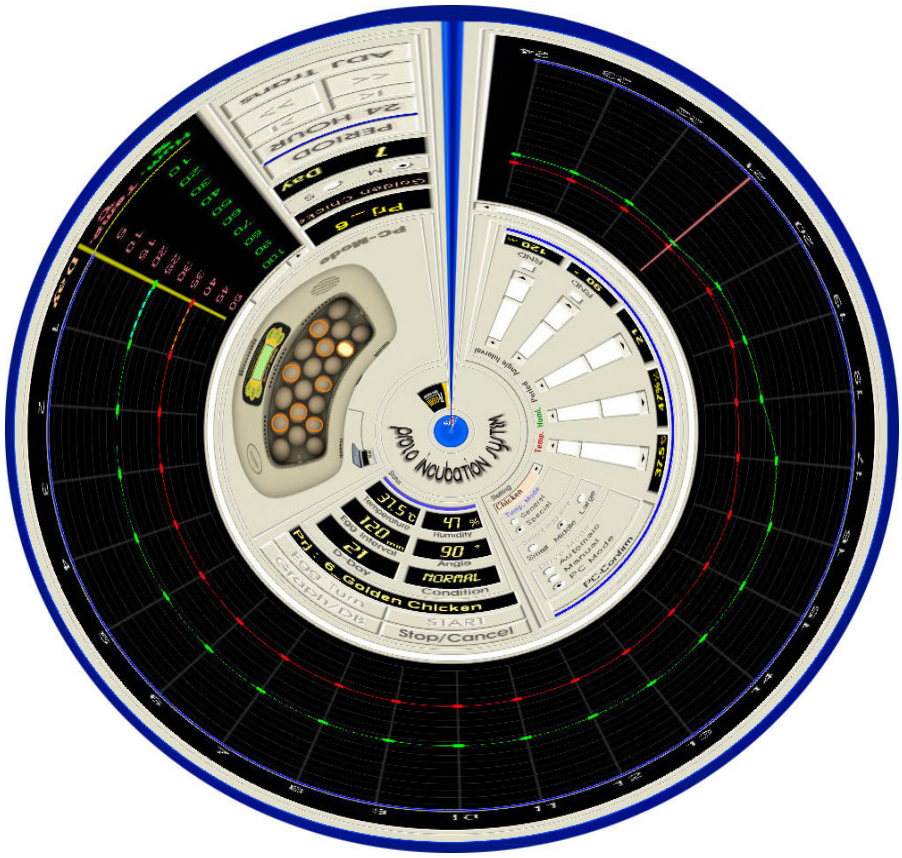
R-COM Digital Incubator 20 PRO

USER'S MANUAL

INCUBATION SYSTEM PROGRAM

R-COM PRO 20



AUTO ELEX CO.,LTD.

RCOM Pro20 Program Manual

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Incubation conditions on the program can be changed by user, and the result can be different from user's experience or know-how.

Function of the program can be changed without notice for improvement in performance.

1. Installation Specifications

Spec.	Min. Spec.	Recommended Spec.
CPU	Pentium 2 (Over 500 MHz)	Pentium 3 (Over 1GHz)
Memory	256 MByte	512 MByte
HDD Capacity	30 MByte	100 MByte
Graphic Card	XGA	SVGA
Operating System (OS)	Windows XP	Windows XP
Monitor Resolution	1024 x 768	1024 x 768
USB	1.0	2.0

T I P!

This program performs initial incubation setting value continuously even if you disconnect the incubator with PC after starting incubation. And when you connect the incubator with PC again, all data will be sent off to the PC.
In other words, you can connect the incubator and PC only when you need to change setting or check temp. & humidity during disconnection.
If you started incubation from PC, you must also terminate incubation by PC.

T I P!

Program termination is different from incubation termination. Even if you terminate the program for other works , incubation will progress continuously. Incubation termination means all hatching is done, and you can execute only with

button on your PC. .

T I P!

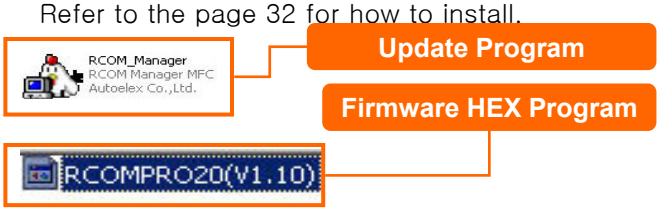
When you remove the USB cable from computer, be sure to terminate computer. If not, error can be caused on the computer.

CD File Contents (only for RCOM PRO20 (USB) Model)

1 This program is for installing Font on your PC program.

It will be installing with double click..
Refer to the page 7 for how to install.

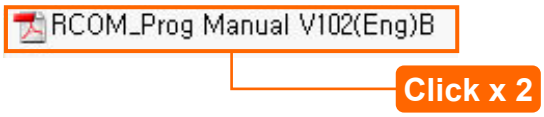
2 This program is for update the program which is controlling all incubation operation.
You don't need to install otherwise you want to update incubator function.
Refer to the page 32 for how to install.



3 It is PC controlling management program. It controls incubator temperature, humidity, egg-turning and egg-turning interval. It also manages egg temperature, humidity changes with database. Hatching success ratio can be improved with this program because it applies egg density loss and weight loss for incubation.

Installation will be operate with double click.
Refer to the user's manual page 8 for how to install.

4 There is PC program user's manual.



You can find it with double click.

5 There is a file for installing USB driver.

Select XP folder. Refer to the user's manual Page 4 for how to install.

T I P!

Program Installation Order

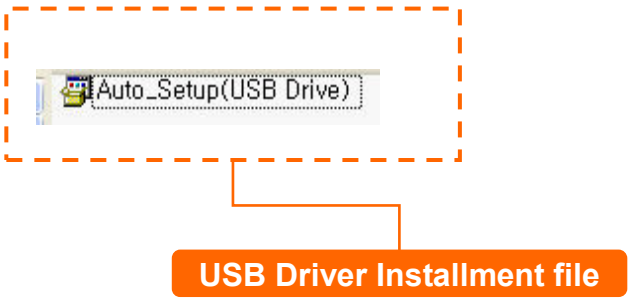
1. Install USB Driver.
2. Install Font program.
3. Install PC program.

4. When you want to update the incubator or the incubator has any problem, refer to the user's manual for installing.

For how to install the program above, refer to the user's manual.

2. Driver **Installing** (Automatic)

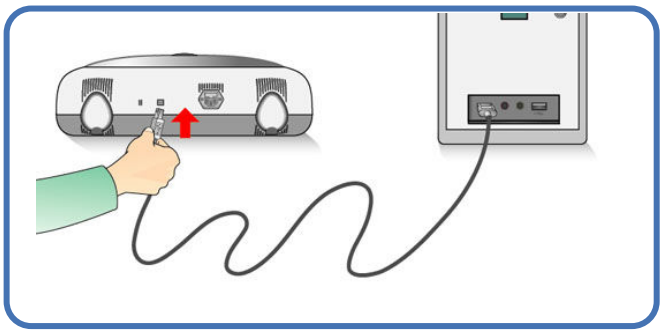
Use manual driver installation when it cannot process automatic driver installation.



1 Select "Auto_Setup(USB Drive)" file above window explorer.

2 Click "Auto_Setup(USB Drive) file.

3 If the message above shows, it means installment is completed.

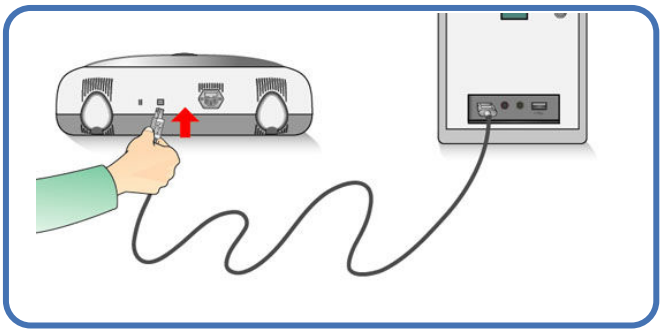


4 Connect the incubator with computer USB port. The computer will recognize the incubator after a while.

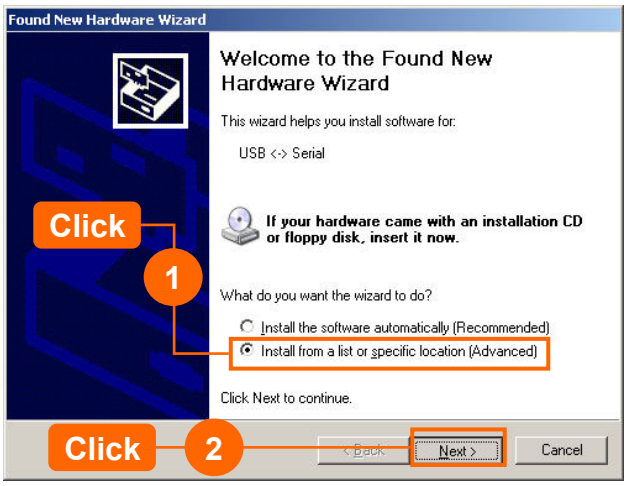
CAUTION

You don't need to install USB Driver manually if it installed automatically.
Manual Driver Installment on next page is used when it does not installed automatically.

2. Driver Installing (Manual)



1 Connect the computer port and the incubator port.
(Be sure to the power code is connected with incubator.)


Found New Hardware Wizard
Welcome to the Found New Hardware Wizard
This wizard helps you install software for:
USB <-> Serial
If your hardware came with an installation CD or floppy disk, insert it now.
What do you want the wizard to do?
Install the software automatically (Recommended)
Install from a list or specific location (Advanced)
Click Next to continue.
Click
1
Click
2
< Back
Next >
Cancel

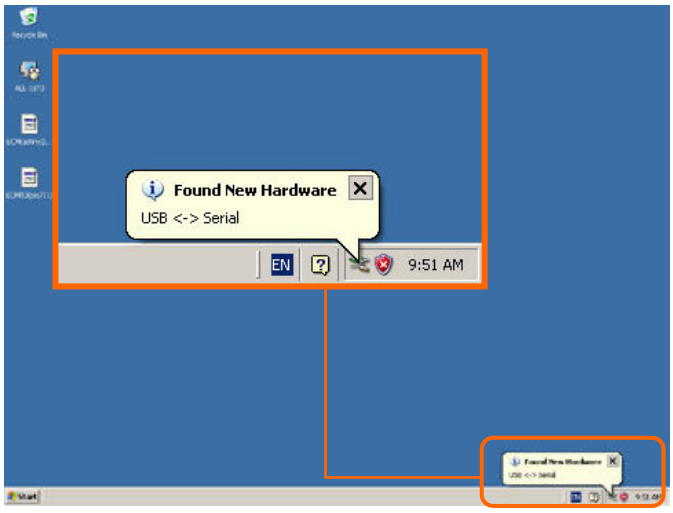
CAUTION

You would better to specify
one USB port for use.
Do not change USB port position.

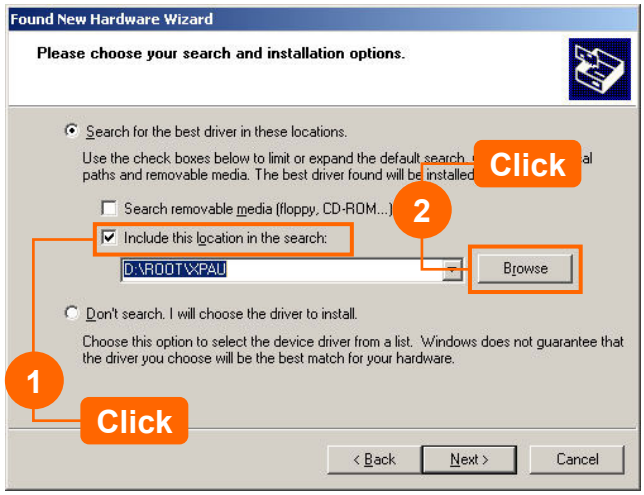
3

1 After a few seconds, the message will appear as above. Then, check on **"Install From a list or specific Location [Advanced]".**

2 Click "NEXT".



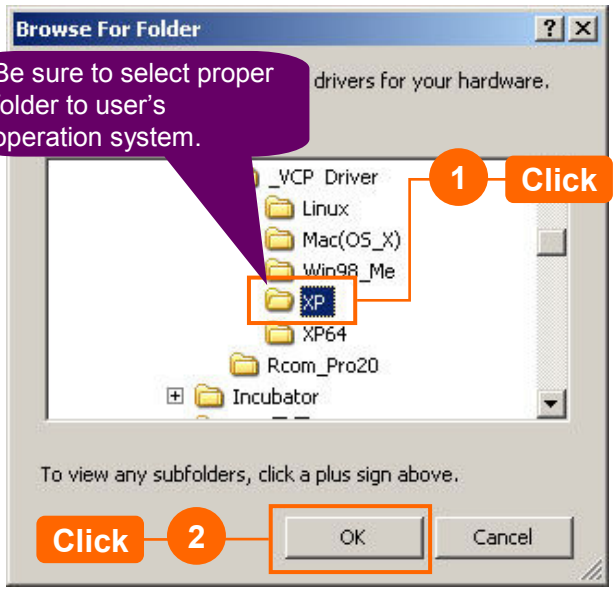
2 If you connect USB,
"Found New Hardware" message will appear as above.


Found New Hardware Wizard
Please choose your search and installation options.
Search for the best driver in these locations.
Use the check boxes below to limit or expand the default search, and paths and removable media. The best driver found will be installed
Click
Search removable media (floppy, CD-ROM...)
2
Include this location in the search:
D:\ROOT\XPAU
Browse
Don't search. I will choose the driver to install.
Choose this option to select the device driver from a list. Windows does not guarantee that the driver you choose will be the best match for your hardware.
1
Click
< Back
Next >
Cancel

4

1 Check **"Include this location in the search".**

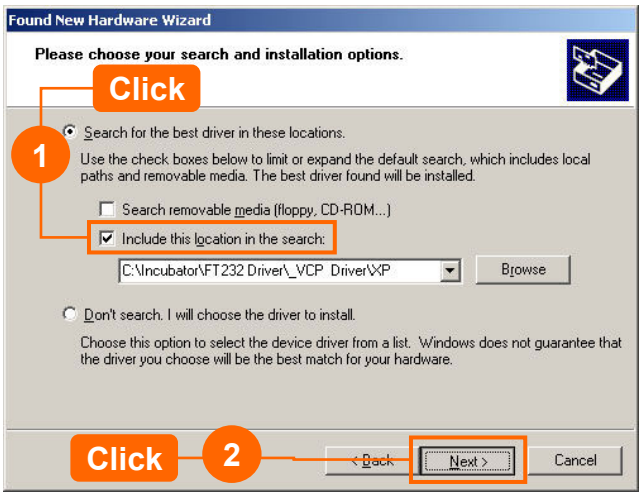
2 Find out the folder which have drive,
and press "Browse" button.



5 Select Driver CD or downloaded folder.

1 Select proper folder to your computer's operating system from the Driver folder.
EX) Windows XP – XP Folder
Windows 98 – Win98_Me

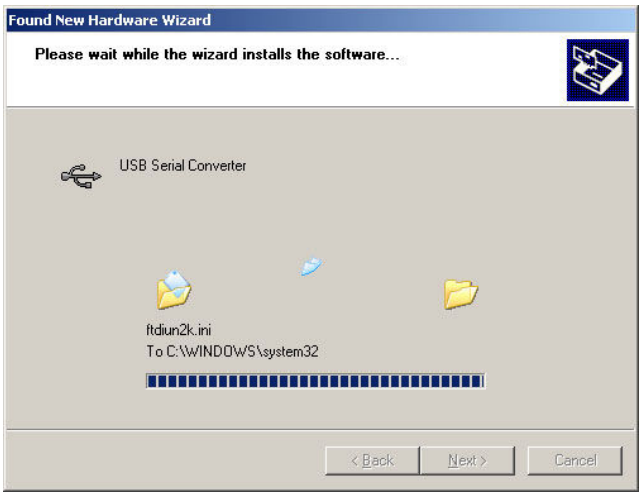
2 Click "OK" button.


Found New Hardware Wizard
Please choose your search and installation options.
Click
1
Search for the best driver in these locations.
Use the check boxes below to limit or expand the default search, which includes local paths and removable media. The best driver found will be installed.
Search removable media (floppy, CD-ROM...)
Include this location in the search:
C:\Incubator\FT232 Driver_VCP Driver\XP
Browse
Don't search. I will choose the driver to install.
Choose this option to select the device driver from a list. Windows does not guarantee that the driver you choose will be the best match for your hardware.
Click
2
< Back
Next >
Cancel

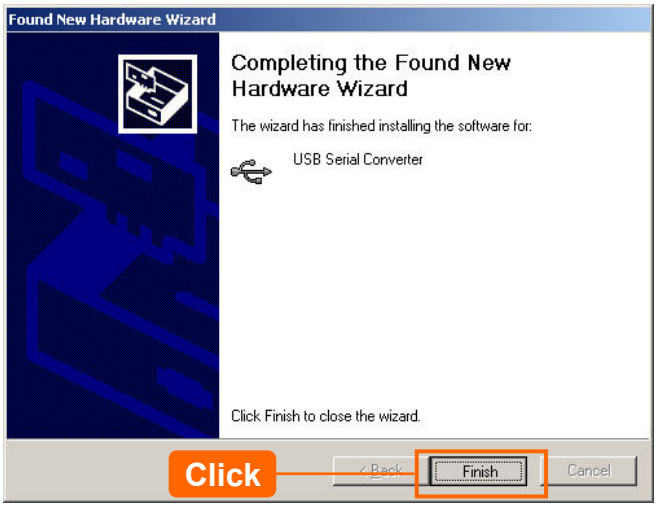
6 After Driver folder selected, press "Next" button.

1 Confirm that **"Include this location in the search"** is marked.

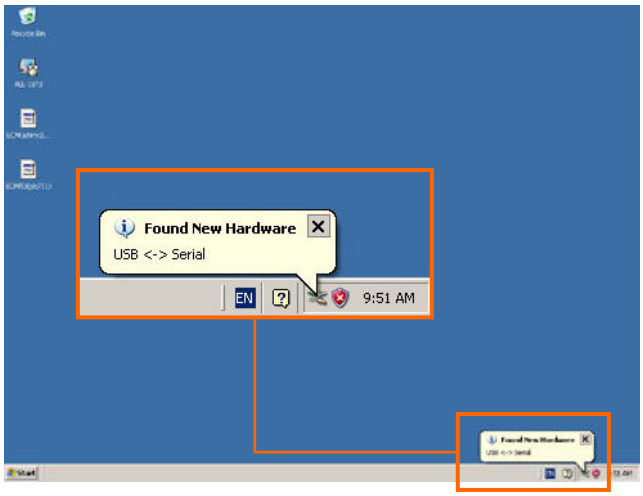
2 Click "Next" .



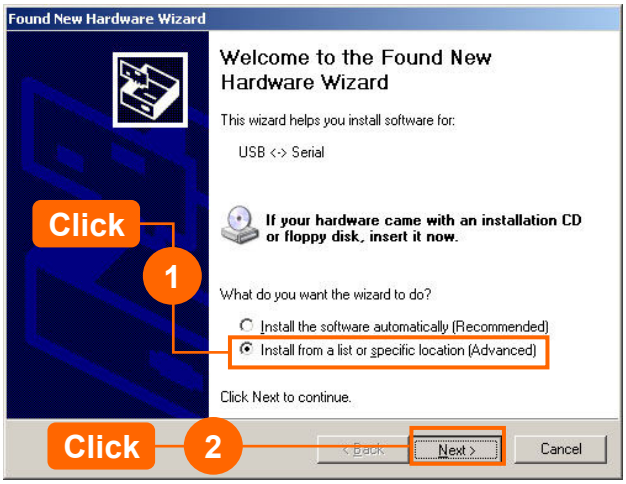
7 Driver Installing will be executed.



8 It will complete the primary Driver installing.



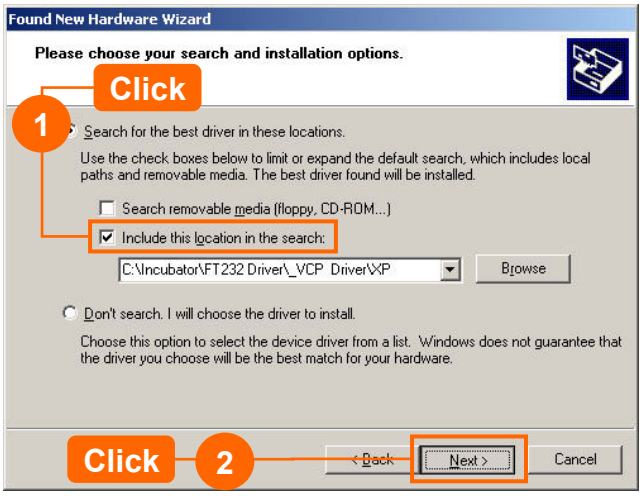
9 Soon, "Found New Hardware" message will appear again.


Found New Hardware Wizard
Welcome to the Found New Hardware Wizard
This wizard helps you install software for:
USB <-> Serial
If your hardware came with an installation CD or floppy disk, insert it now.
What do you want the wizard to do?
Install the software automatically (Recommended)
Install from a list or specific location (Advanced)
Click Next to continue.
Click
1
Click
2
< Back
Next >
Cancel

10 After a few seconds, the message will appear as above, again.

1 Check **"Install From a list or specific Location [Advanced]"** and then, click "Next".

2 Click "Next" button.


Found New Hardware Wizard
Please choose your search and installation options.
Click
1
Search for the best driver in these locations.
Use the check boxes below to limit or expand the default search, which includes local paths and removable media. The best driver found will be installed.
Search removable media (floppy, CD-ROM...)
Include this location in the search:
C:\Incubator\FT232 Driver_VCP_Driver\XP
Browse
Don't search. I will choose the driver to install.
Choose this option to select the device driver from a list. Windows does not guarantee that the driver you choose will be the best match for your hardware.
Click
2
< Back
Next >
Cancel

11

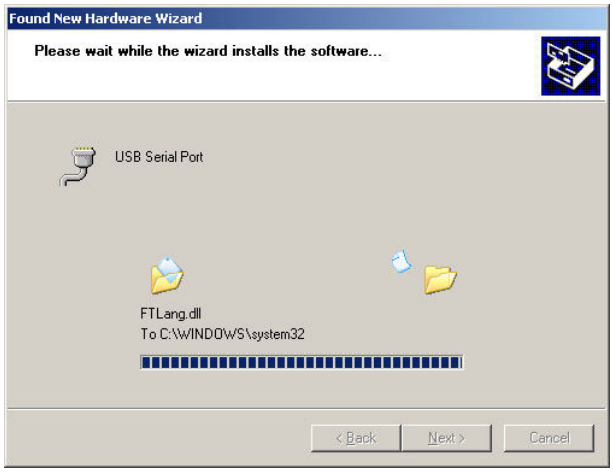
1 Confirm that **"Include this location in the search"** is marked.

2 Click "Next" button.

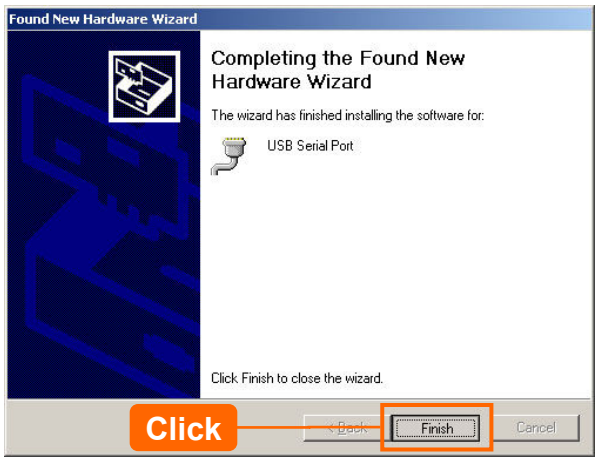
T I P!

If indicated folder is located another position from prior folder, press "Browse" button and select the same folder with your computer operating system.

EX) Windows XP – XP folder
Windows 98 – Win98_Me

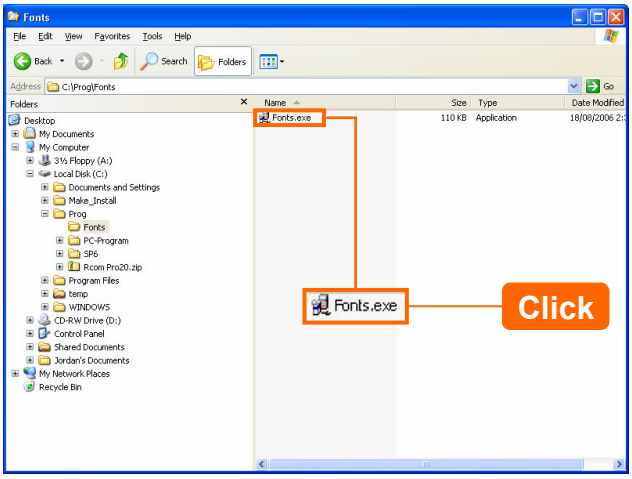


12 Driver installing will be executed.

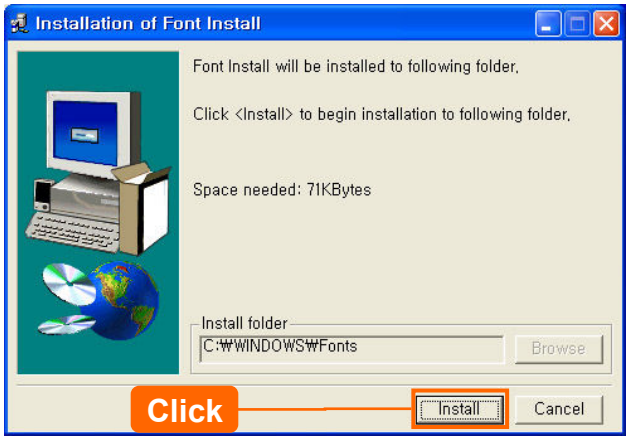


13 If you press "Finish" button, all Driver installing progress will be completed.

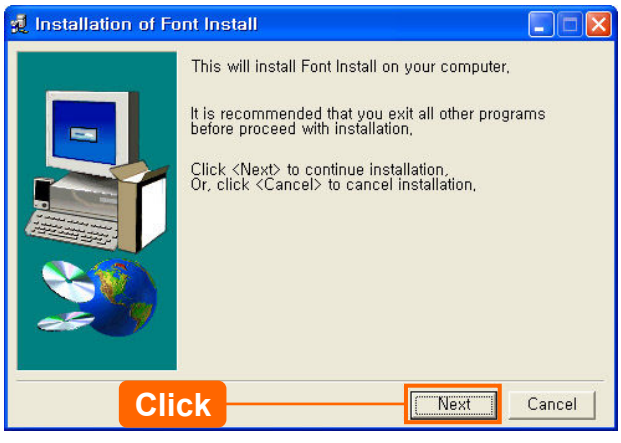
3. Rcom PRO20 Font Installation



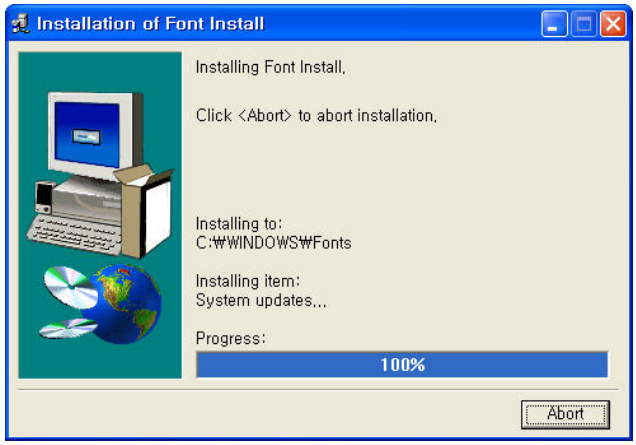
1 Double click “Fonts exe file” on the given CD, or Downloaded file.
It will execute and indicate as below.



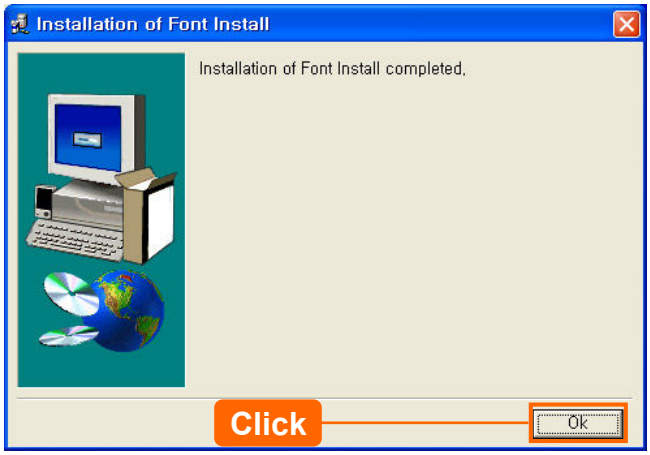
2 Here, click “Install” button.


Installation of Font Install
This will install Font Install on your computer.
It is recommended that you exit all other programs before proceed with installation.
Click <Next> to continue installation,
Or, click <Cancel> to cancel installation.
Click
Next
Cancel

3 And, click “Next” button.



4 Program installation progress bar will be working, and 100% completed mark will show up, soon.
.

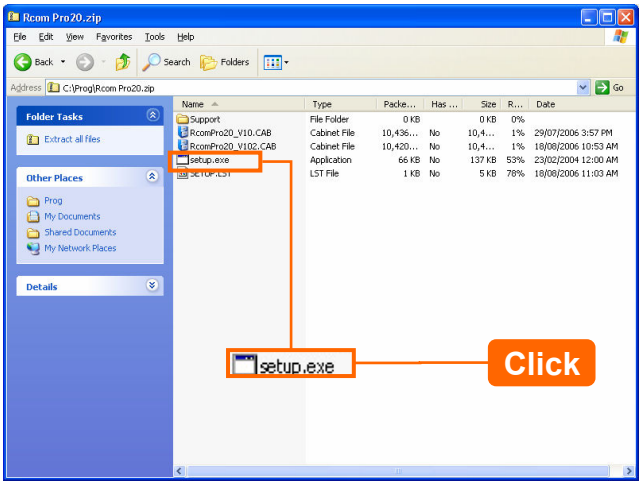


5 Installation completed message will show up.
Then, press “OK” button.
All font installation completed.

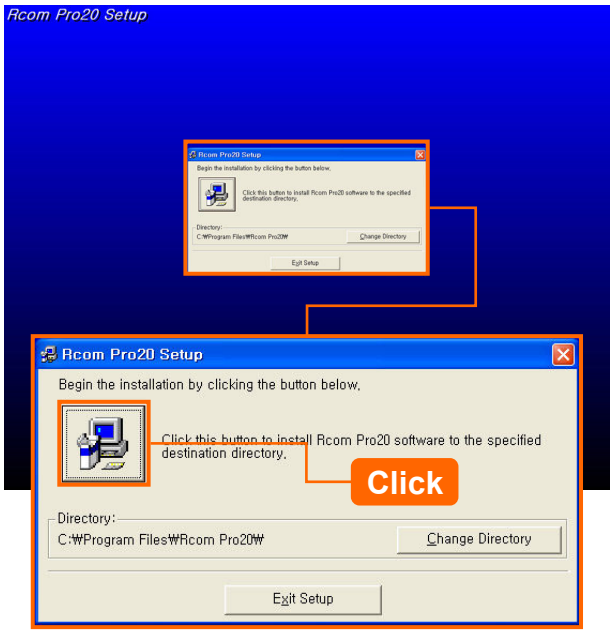
CAUTION

⚠ Be sure to install Font installation program before you install Rcom PRO20 system program.

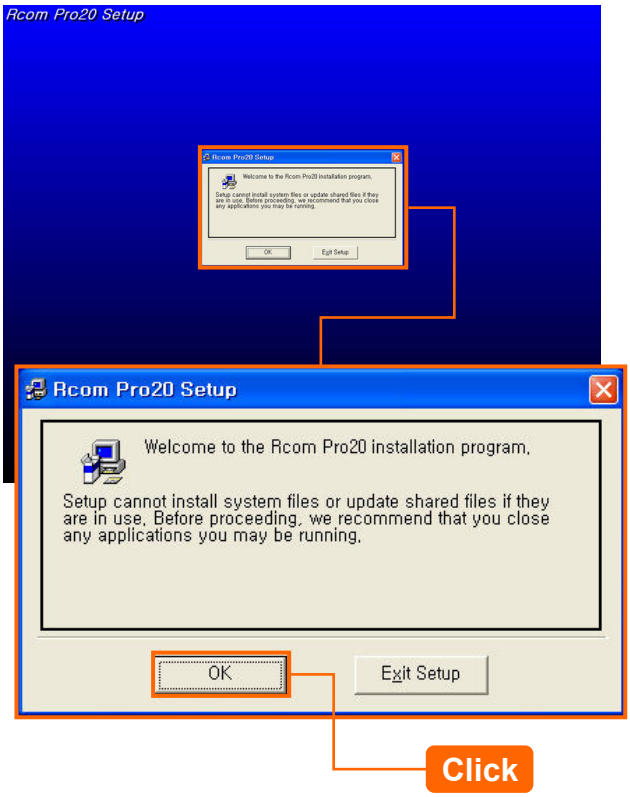
4. Rcom PRO 20 System Program Installation



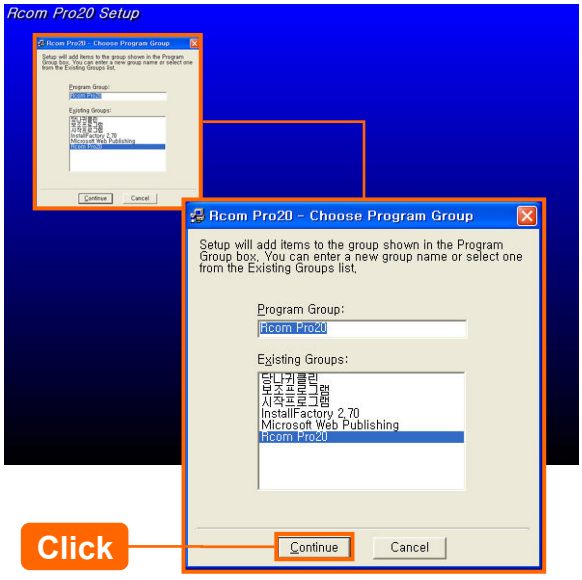
1 Click “Setup exe” installing file on the path of given CD or downloaded installing file.


Rcom Pro20 Setup
Begin the installation by clicking the button below.
Click this button to install Rcom Pro20 software to the specified destination directory.
Click
Directory:
C:₩Program Files₩Rcom Pro20₩
Change Directory
Exit Setup

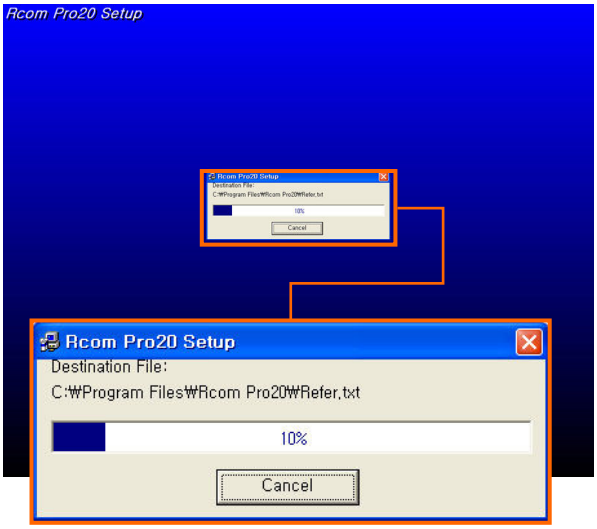
3 Click computer icon.
Next stage will be progressed for program Installation.


Rcom Pro20 Setup
Welcome to the Rcom Pro20 installation program.
Setup cannot install system files or update shared files if they are in use. Before proceeding, we recommend that you close any applications you may be running.
OK
Exit Setup
Click

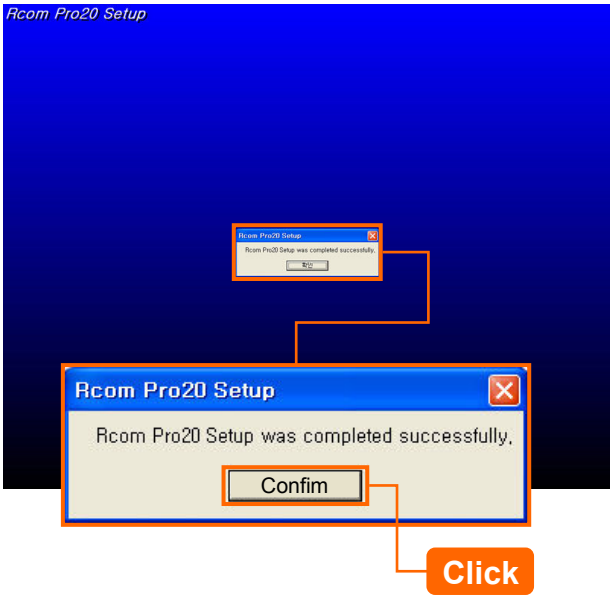
2 Click “OK” button.


Rcom Pro20 Setup
Rcom Pro20 - Choose Program Group
Setup will add items to the group shown in the Program Group box. You can enter a new group name or select one from the Existing Groups list.
Program Group:
Rcom Pro20
Existing Groups:
InstallFactory 2.70
Microsoft Web Publishing
Continue
Cancel
Click

4 Click “Continue” button.
Next stage will be progressed.



5 Program installation will be progressed and bar will be indicated.



6 Program installation completed message will show up. Press “Confirm” button.

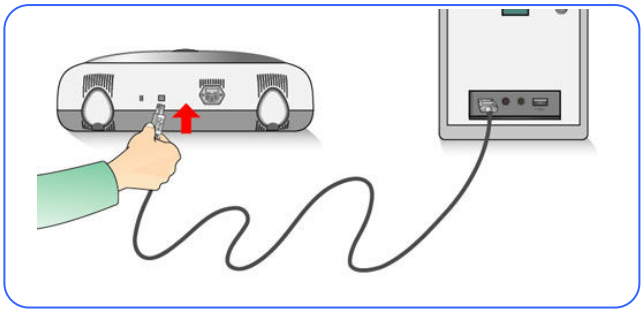
CAUTION

Be sure to reboot the computer after you complete program installation.

CAUTION

If the program does not executed well even if you reboot the computer, try to reboot the computer one more time.

5. Communication Linkage between Incubator and Computer



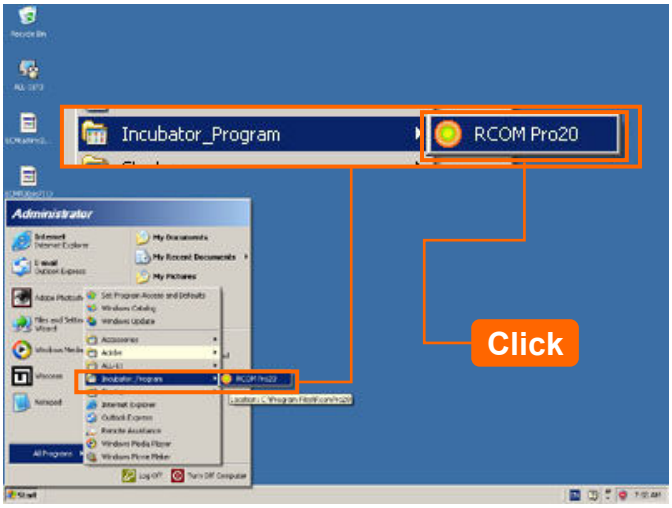
1 Connect the computer and USB cable on the state of power cable connecting.

CAUTION

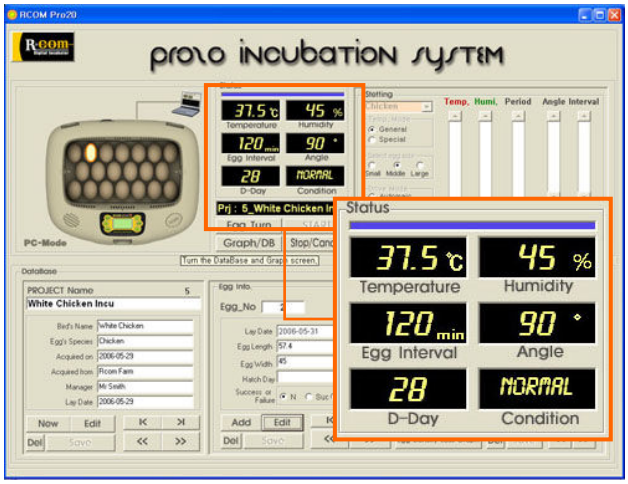
Be sure to connect USB and incubator before starting program operation.

CAUTION

You would better to specify an USB port for use.
Do not change the USB port position.



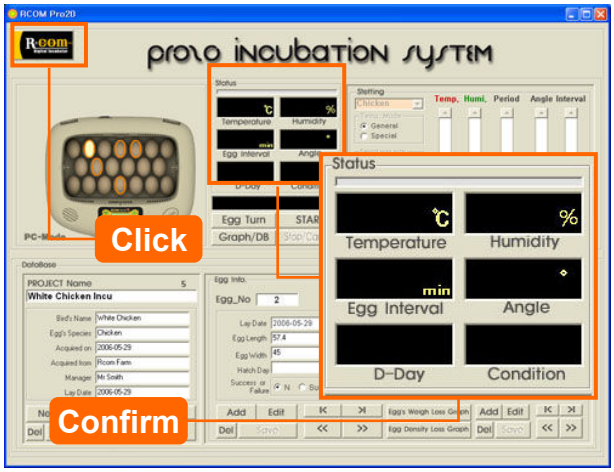
2 If you click “RCOM Pro20”, program will executed.



3 When you execute the program first, Com1~10 will be indicated on condition window for seeking incubation connecting.
If black display gives the figure of Temp. and humidity about 10~20sec. later, and computer icon will display on the top, right side of incubator icon, it means normally connected.

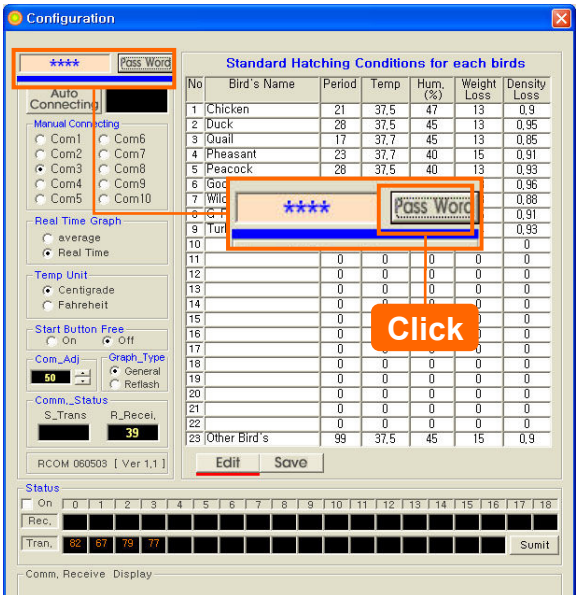
TIP!

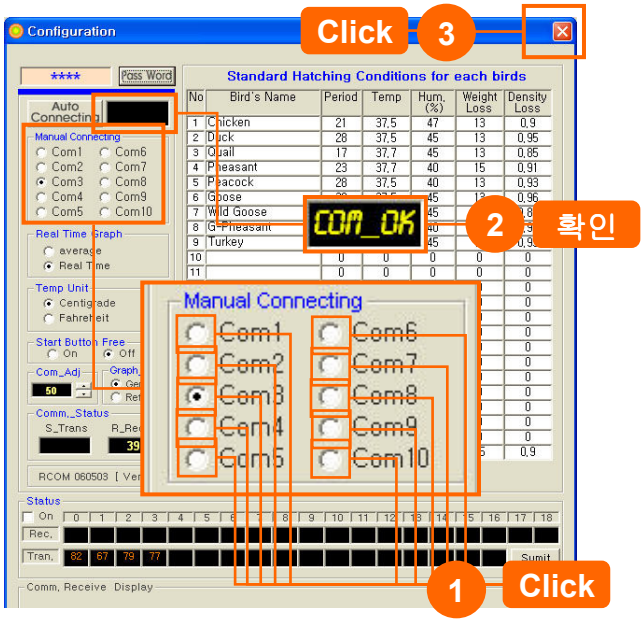
If computer icon is displayed on the top of the incubator, it means normally connected. In this case, pass to page10.



4 If black display does not show Temp. and humidity within 3min., and there is no computer icon on top, right of the incubator icon, it means the computer didn’t connected with the incubator.

In this case, click “Rcom” logo as above.





5 If the computer didn't connect with incubator automatically, you need to connect manually.
For manual connection, input password at the top.

Password is made of compounding of the date and minute.

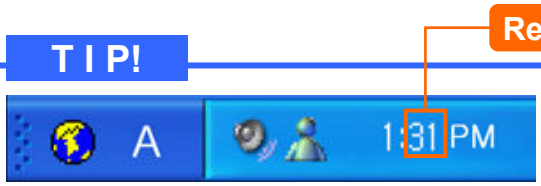
Refer to the example below, and input password.
Then, logo setup window will be unlocked, and you can manually set up.

Ex1) May. **28** 11 : **19** → **2819**

Ex2) July. **9** 10 : **08** → **0908**

After input the password, click "Pass Word" button.

T I P!

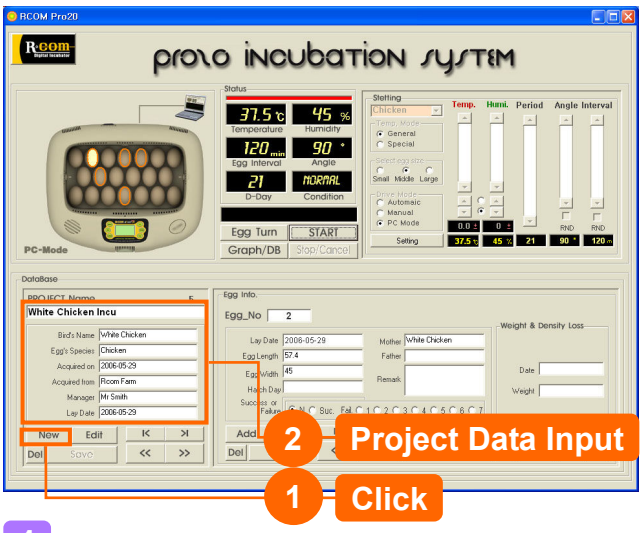


When you input password, be sure to refer the time of PC timekeeper.
If you don't refer PC timekeeper, the password input can fail.

6

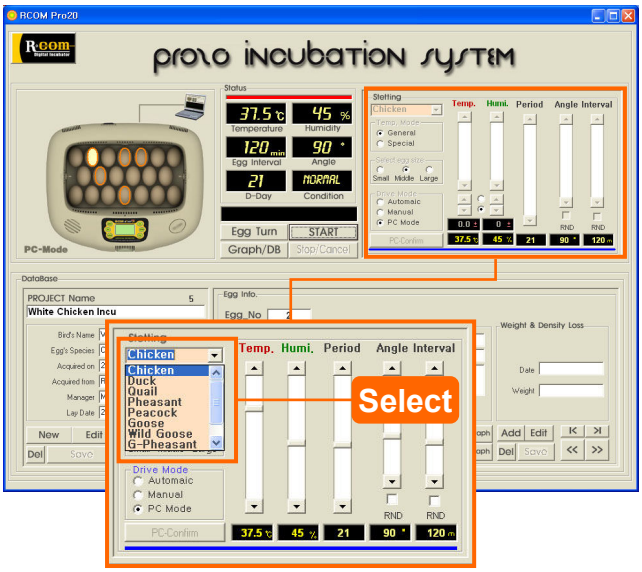
1. For connecting communication manually, press Com1~ Com 10 button in order at 5sec. intervals.
2. On the communication linkage, COM_OK icon will appear. When this icon comes out, do not select other Com.
   Incubator normally connected.
3. If you close the window, all connection will be completed.

6. How to Incubate Easily with PC



1

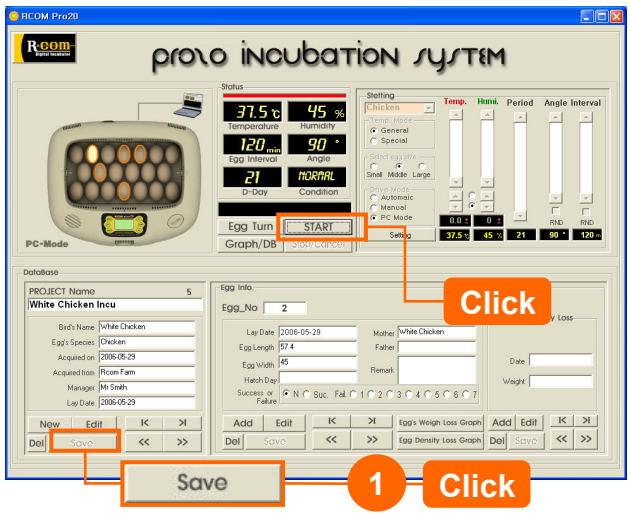
1. For input new project, click “New” button.
2. Input the project data.



2 Confirm the blue bar at the bottom, and select the species of birds from the List Box. If you select, selected bird’s incubation condition will be set as basis setting Data value.

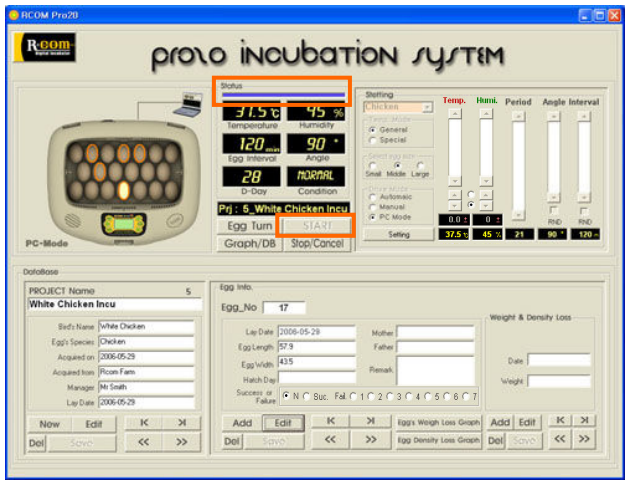
T I P!

When you select or modify,
blue colored bar will appear at the bottom.



3

1. After setting completing, press “SAVE” button.
2. All preparing completed for starting incubation. Press “Start” button.



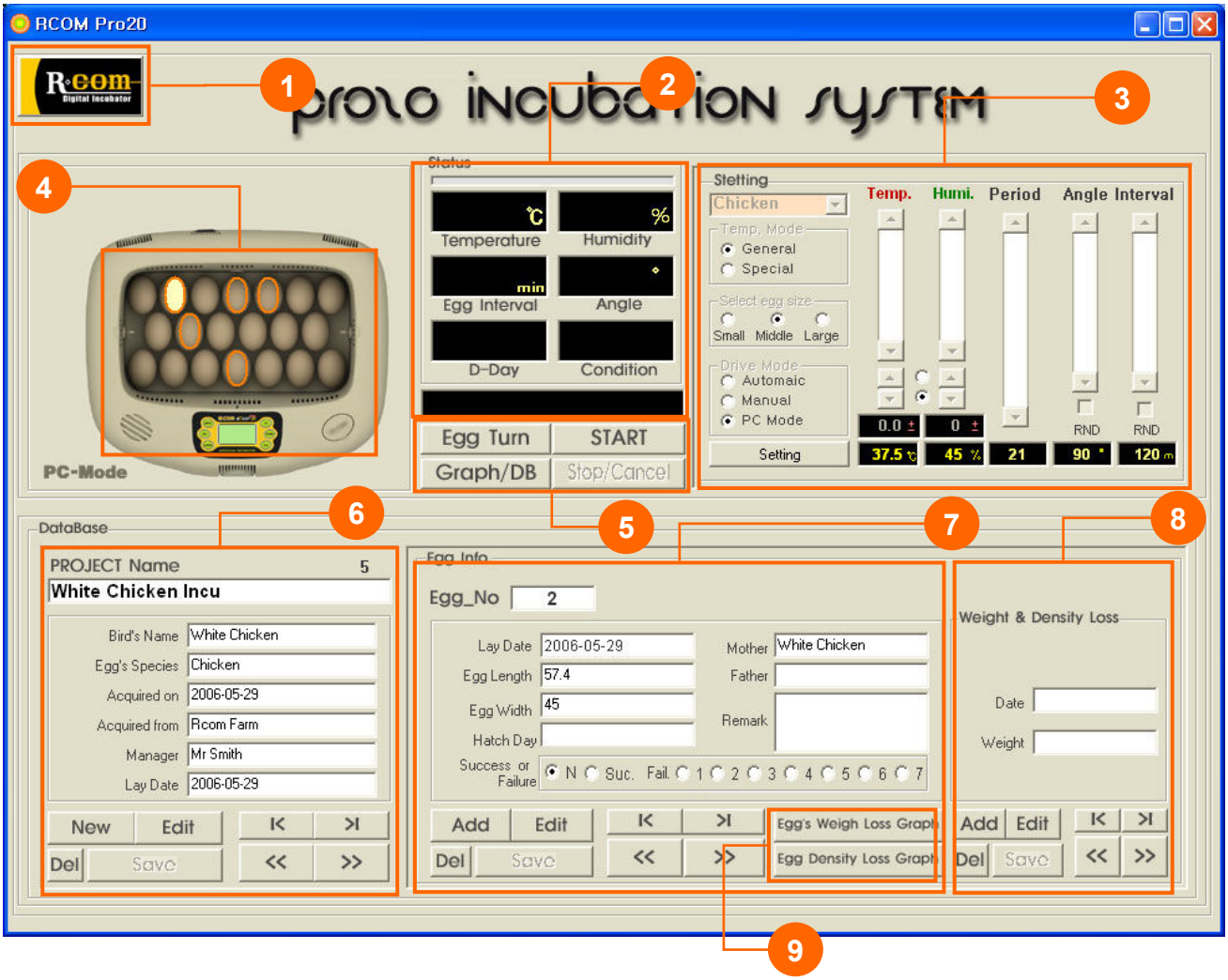
4 If the incubation is started, “Start” button will be disabled. And the Signal Bar, located at the top of “Status” blinks with red and blue color and progresses incubation.

T I P!

When you don’t know the function of each button or Text window, put the mouse on the button or window which you want to know for about 2 sec. Then, some description will come out.

7. Explanation of Each Part

1 Fundamental Terms of each part On the Main Screen



1 RCOM Logo Button : Basic conditions setting and testing. (Refer to the page 17.)

2 Status : Real-time display of incubator Temp. humidity, egg-turning intervals & angle, D-Day, and others conditions.

3 Setting : Selecting the species of birds, Temp. mode (Standard mode or Special mode), Egg size, Working Mode (Automatic, Manual, or PC connecting). You also can setup temp. humidity, incubation period, egg-turning intervals and angle by using setting bar.

4 For selecting specified Egg for input each egg's data.

5 Selecting Incubation start or termination, egg-turning angle, Database, and Graph.

6 Input project related data. (Project Name, Bird Name, Bird Species etc.)

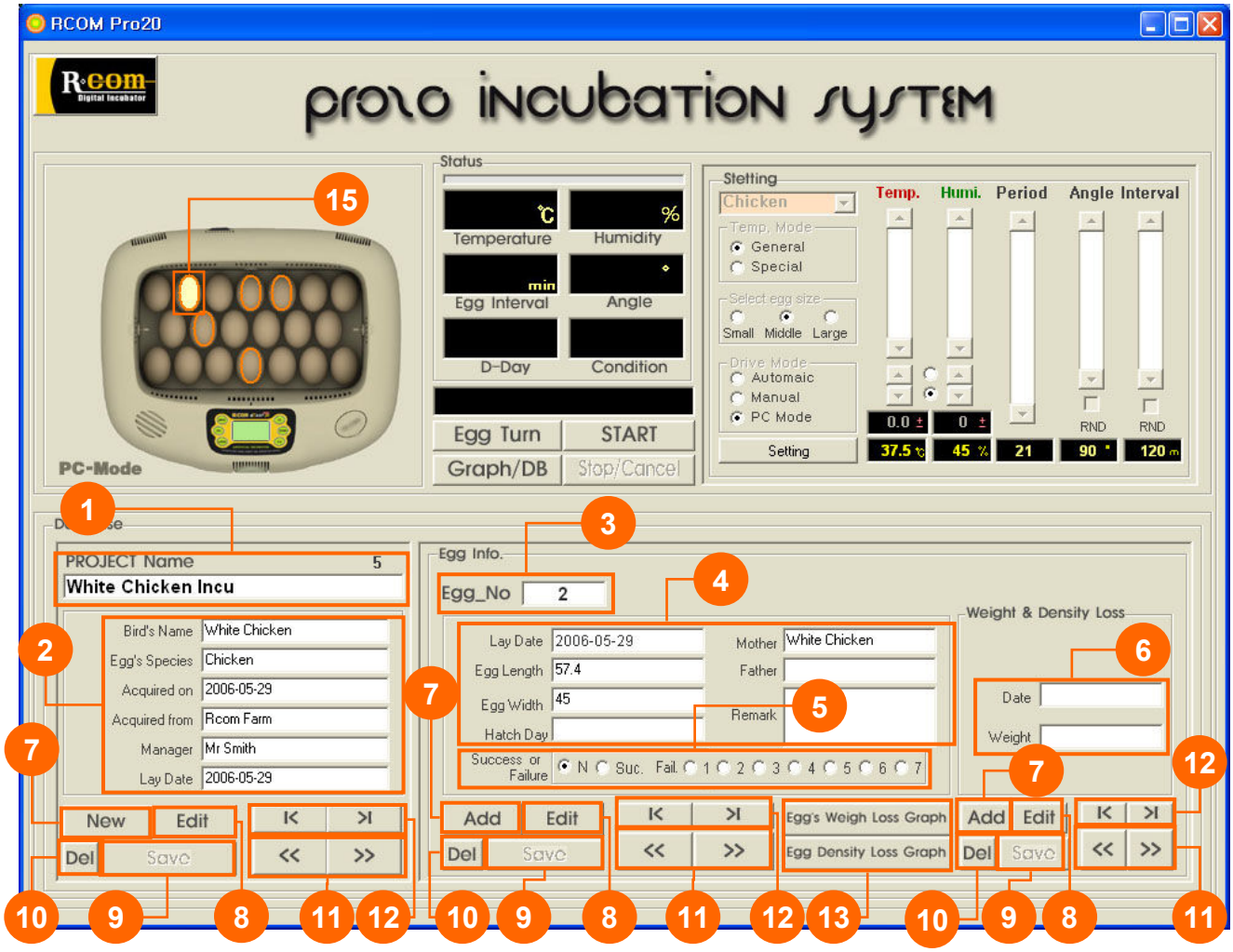
7 Input each egg's data which is selected at 4. (laid date, length of egg, and width of egg etc.)

8 Among every egg, input selected egg's weight changes everyday during incubation period.

9 With weight change data which you input at 8, it indicates daily weight loss graph and density loss graph.

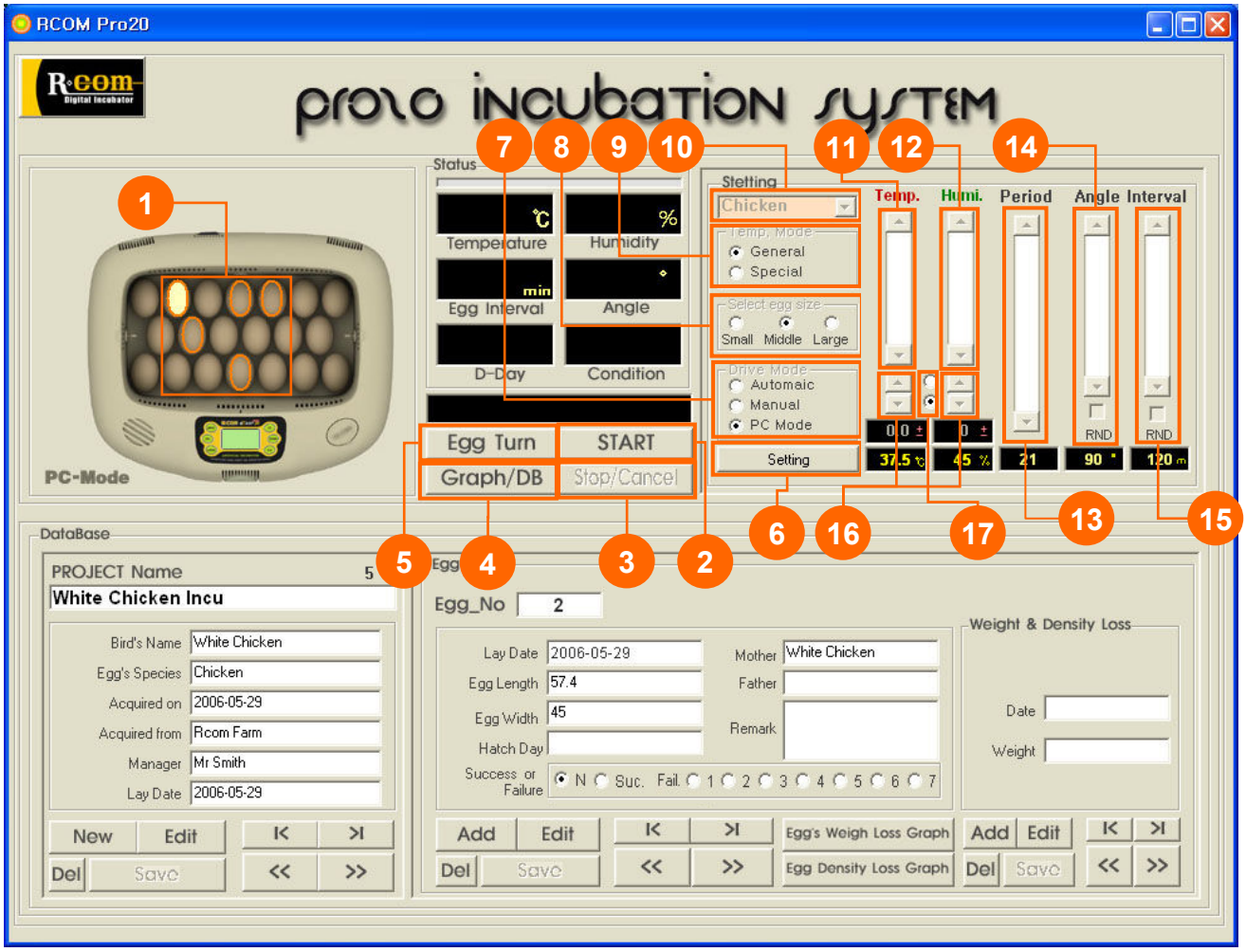
.

2 Main Screen Project Input and Egg Data Input



1. Output project name. 5, which is on right top, is project No.
2. Input bird name, species, acquired date, acquired farm, manager, and laid date.
3. Egg No. which you selected on 15 , on the incubator icon.
4. Input selected egg's laid date, length, width, hatch day, mother bird, and remarks.
5. For checking hatching success or failure.
   N: an unfertilized egg Suc: successfully hatched Fail: week of incubation stopped
6. During incubation, measure and input daily egg weight changes.
7. Input new project, new egg data, or weight data.
8. Edit data.
9. Saving new data or editing data on the database.
10. Deleting selected data. At the same time, all the lower rank data will be deleted.
11. Move the Data former or back stage.
12. Move to Data's outset or last stage.
13. Manage the egg density or weight loss with graph.

3 Setup Window and Button on Main Screen

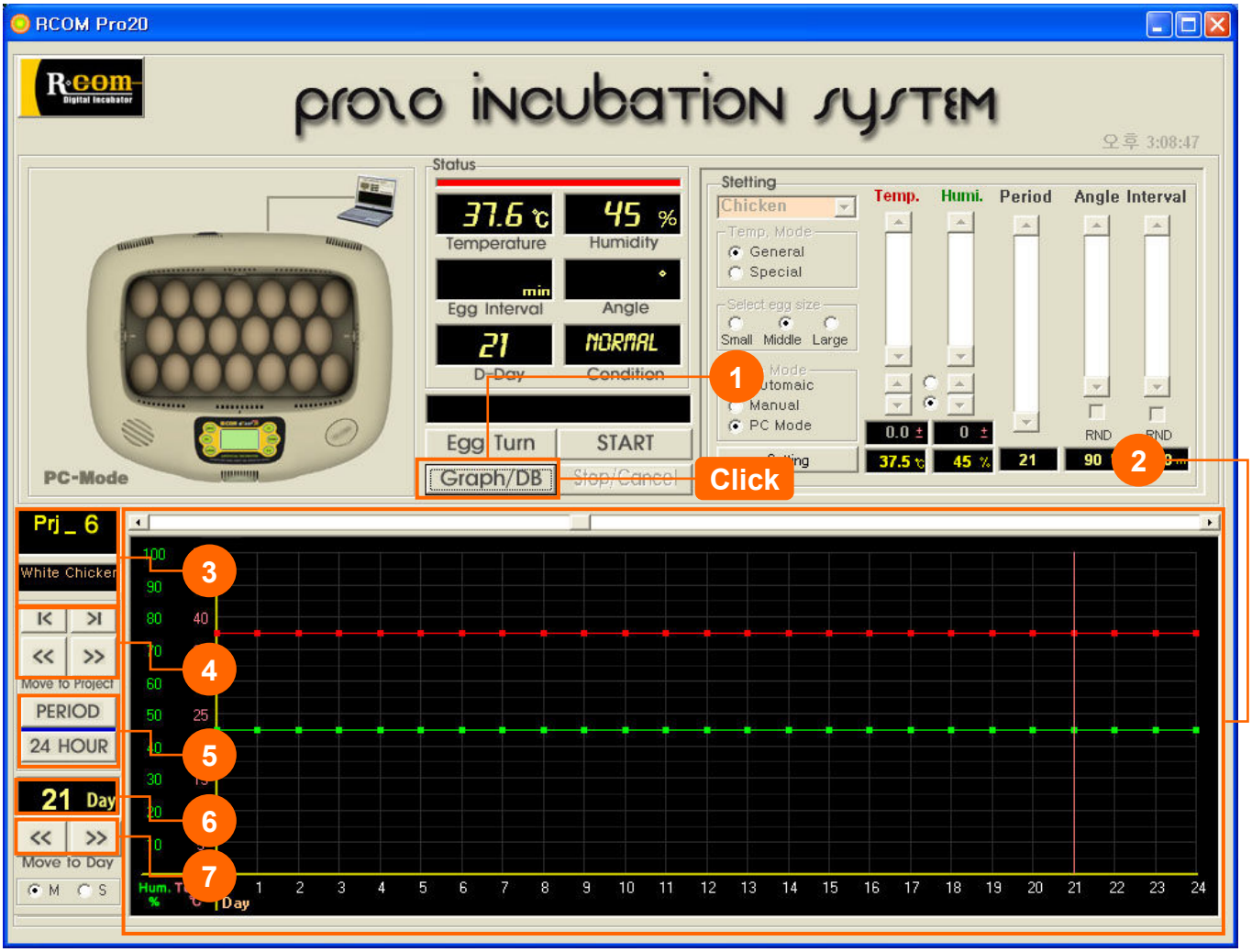


1. Indication for Information inputted eggs.
2. After all setting is completed, press “Start” button to start incubation.
3. After hatching, press this button for Incubation Termination.
4. Selecting Database input window and Graph window.
5. Indicating Egg-turning angle.
6. Setting each item of setup window.
7. Selecting working mode. (automatic, manual, or PC connecting mode)
8. Selecting Egg size. (Large, standard, and small sized egg)
9. Selecting Temp. mode(standard/ special mode)
10. Select the species of birds. If you select the species, all conditions will automatically setup. If the setting figure is not correct, just modify incorrect parts.
11. Changing the Temp. setting value.
    Automatic working mode : 36.5℃ ~ 38.5℃
    Manual, PC working mode : 20.0℃ ~ 42.0℃
12. Changing the humidity setting value.
    Automatic working mode : 35% ~ 65%
    Manual, PC working mode: 20% ~ 70%
13. Setting incubation period. (from 1 day to 48 days)
14. Setting of egg-turning angle.(15 ℃ ~180 ℃)
    (If you select RND, egg-turning angle will be various every time.)
15. Setting of egg-turning intervals. (10min.~360min.)
    (If you select RND, egg-turning interval will be various every time.)
16. This bar is for setting temperature and humidity alarm limit.
    (It works the setting temperature and humidity as standard.)
17. You can select alarm On or Off.

T I P!

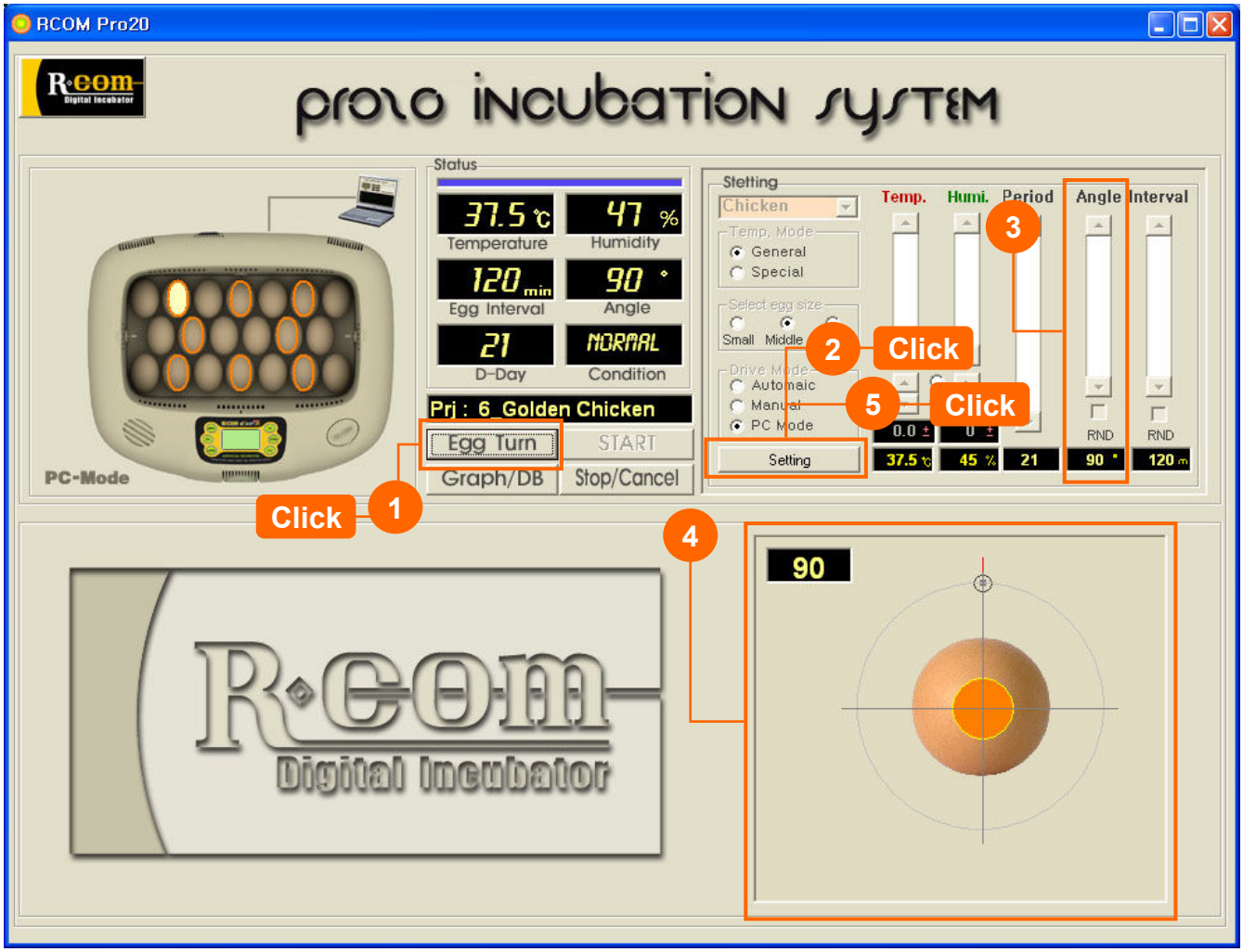
Setting values automatically setup when you select the species of birds, but you can just change the value if it is not correct.

4 Name of each parts on the Graphic screen



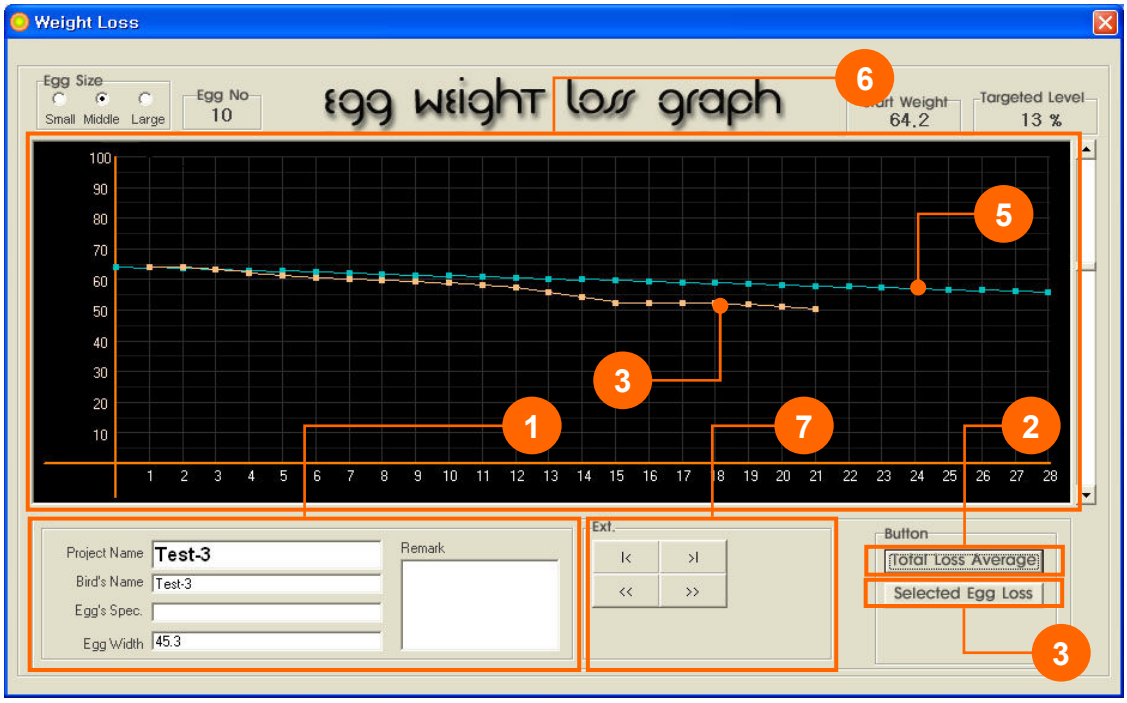
1. "Graph" button functions convert Graph screen and DB screen. If you click, it makes a graph of setting Temp. &humidity as above, and also makes a graph of real-time incubator Temp. &humidity at 10min. intervals.
2. Indicating temp. &humidity graph setting value.
   Indicating incubator real-time temperature & humidity at 10min. intervals.
3. Selected graph's project No. and name.
4. Button for move and select project.
5. If you click "PERIOD" button, it shows only indicated days,
   and if you click "24 HOUR" button, it shows a day's record.
6. Indicating selected incubation date among all incubation period.
7. Button for move and select incubation date.

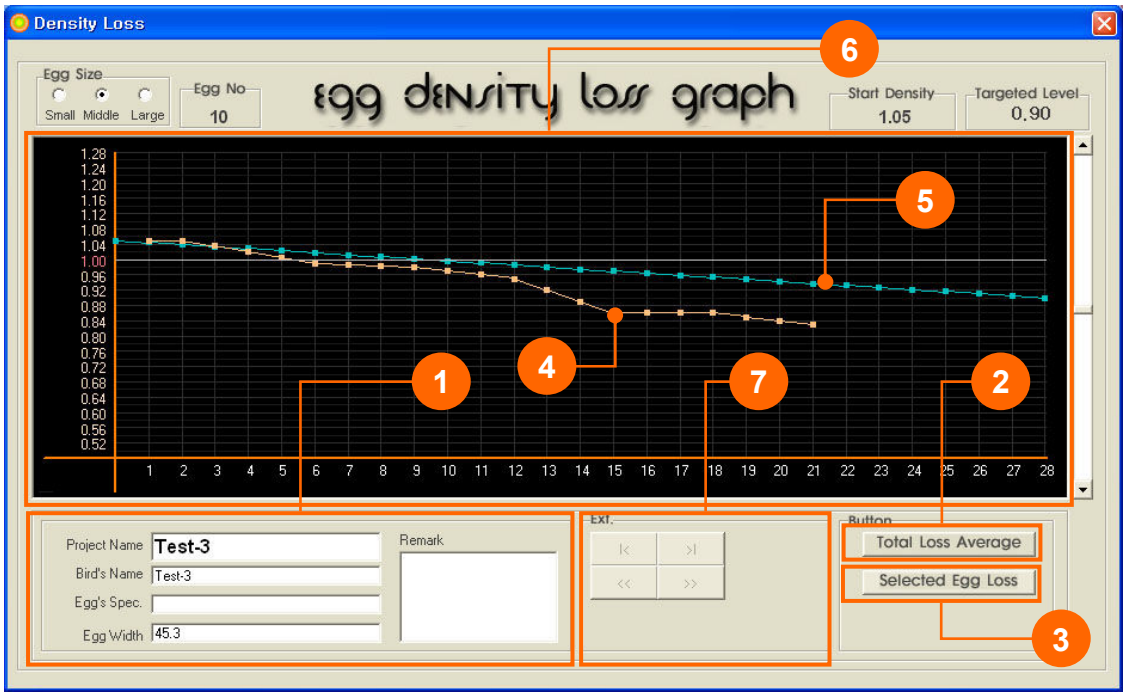
5 Part explanation of Egg-Turning Screen



1. "Egg Turn" performs "Graph" and "Egg Turn" alternatively by turns with pressing the button.
2. Press "Setting" button to revise setting.(This button performs "Setting" and "Confirm" alternatively by turns.)
3. Set the egg-turning angle by pressing setting bar up/down button. (at 15°C intervals 15°C~180 °C)
   (If you check RND, egg-turning angle will be various every time.
4. Confirm the egg-turning angle with the naked eye.
5. Press "Confirm" button for transmitting setting data to the incubator.

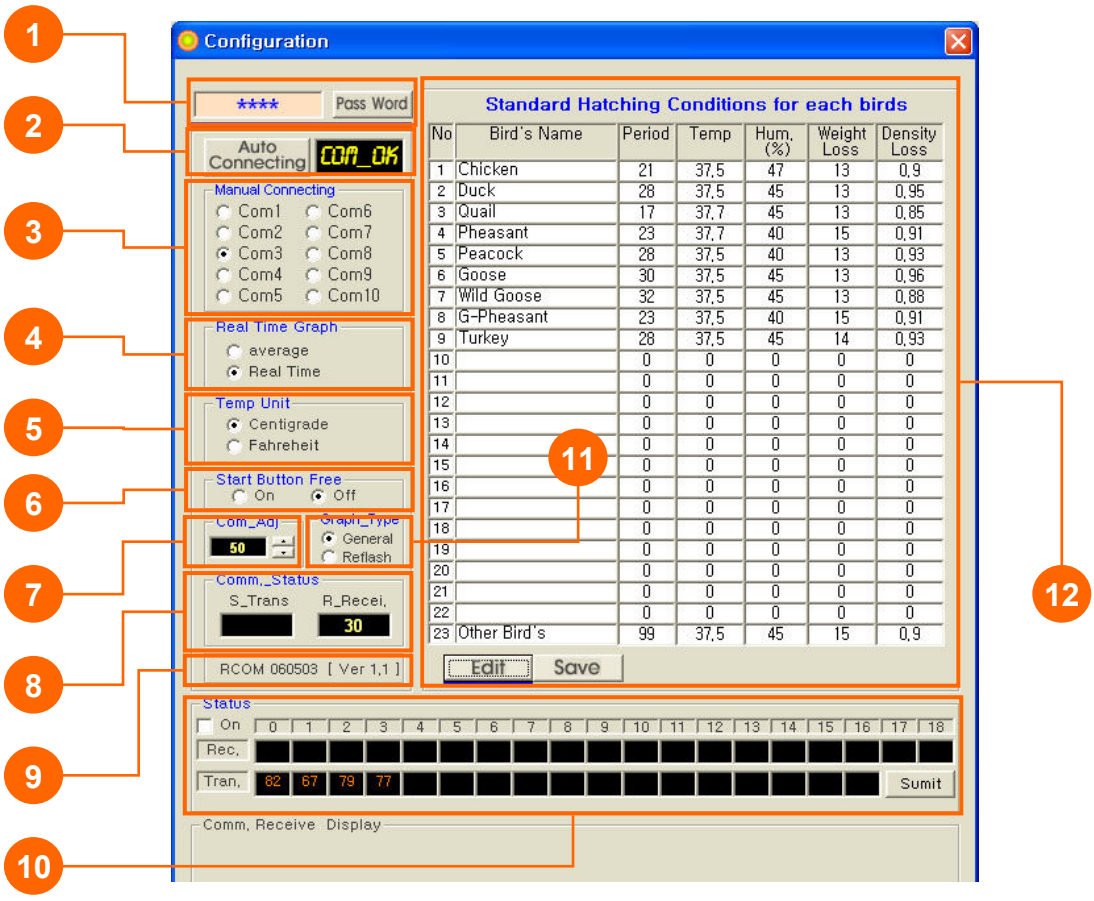
6 Egg Weight Loss & Density Loss Graph





1. Indicating Project related Data.
2. "Total Loss Average" button indicates all egg's average weight & density loss with graph.
3. "Select Egg Loss" button indicates selected egg's weight& density loss.
4. Indicating selected egg or total egg's weight &density loss with graph.
5. Setting for targeted weight & density loss value. (You can control the value with the right control bar button.)
6. Indicating density loss and weight loss with graph.
7. It will be upgraded soon.

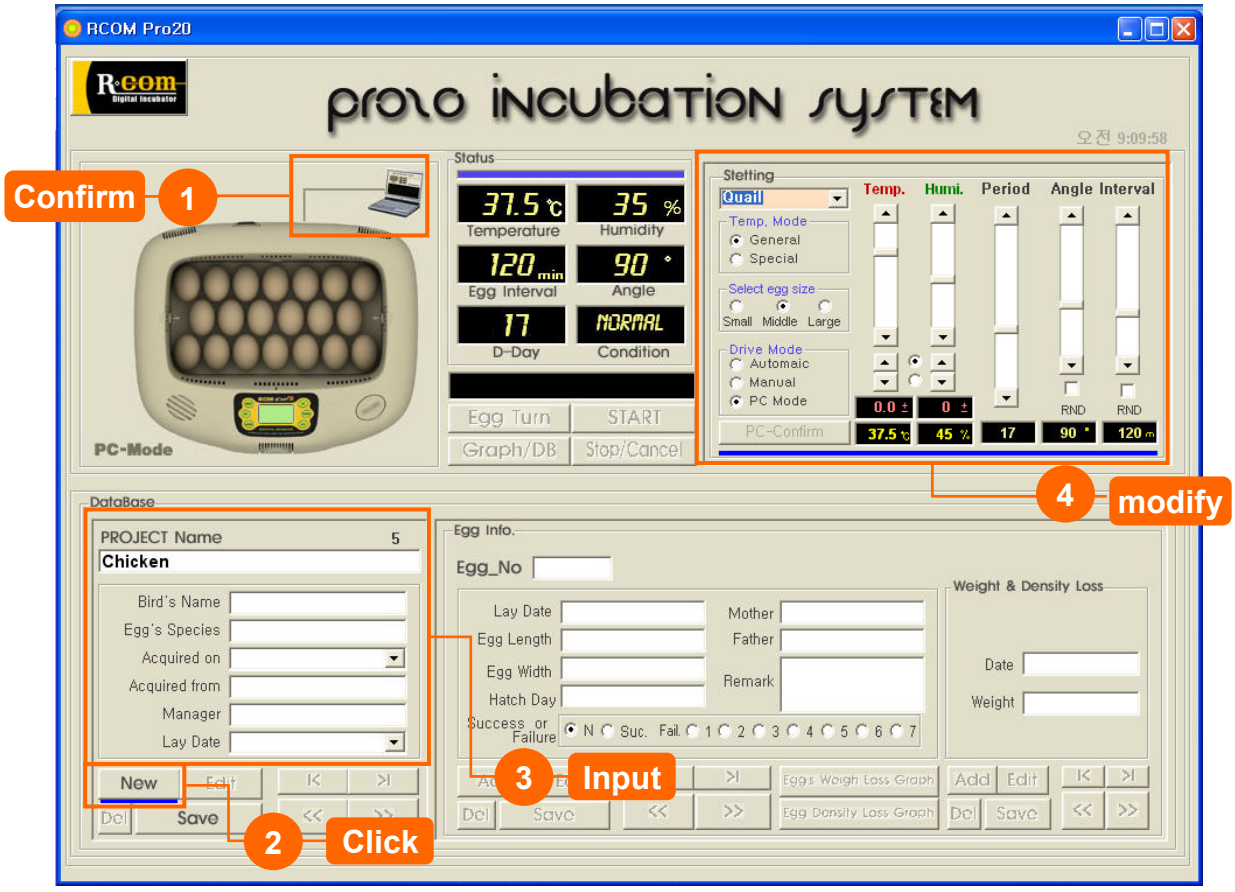
1 Function explanation of Logo window



1. Input the password for default value setting. (Refer to the page9 for how to set the password.)
2. This button automatically connect for communicating with incubator. If there is no sign on the screen, press this button. It connects by searching for connection port.
3. Manual connection is available when automatic connection is failed. Press at 5 sec. intervals one by one. After connecting, ”COM_OK” icon will show up.
4. Real-time incubator Temp.& humidity, Graph indicating way. It indicates average value when you select “Average”, and real-time value when select ”Real-Time”.
5. Selecting Temperature mode (Fahr. or Cels.)
6. Operating the start, termination button without incubator connecting. (**On**: operating without connection, **Off**: operating only with connection)
7. Control only when there is a problem with incubator connection.(Do not use without troubles.)
8. Testing communication sending and receiving.
9. Indicating program version.
10. You can test directly through sending &receiving with incubator. (You can test it under troubles.)
11. Select indicating way of Temp. &humidity data on the Graph window. (General: general mode, Refresh: redraw)
12. When you select the species of birds on main setting part, input and save each bird’s basic information, here. When you select the species of birds on setting window, setting value will be fixed based on this value. (Modifying and addition are available.) (Be careful when you input data on input window, as it is applied directly on incubation. When you input wrong, it can cause some trouble on incubation.)

8. Start Incubation

1 Preparing for incubation start

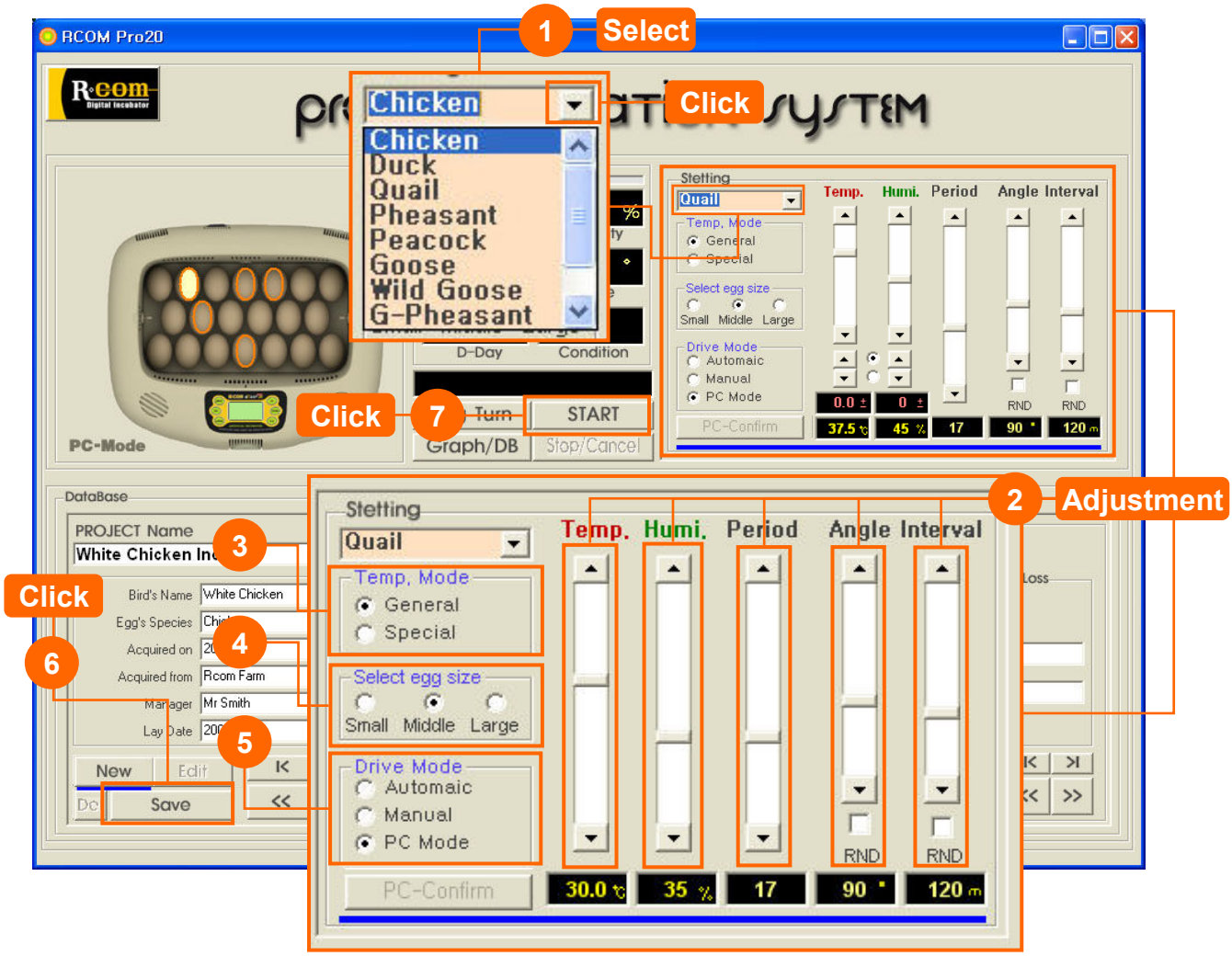


1. At first, confirm the incubator is connected with your computer normally. (Computer icon on the screen means successfully connected.)
   (If the incubator is not successfully connected with the computer, you can not start incubation.)
2. Press “New” button.
3. Input incubation related data, such as project name, bird name, and species, etc.
4. Setting part will be indicated with blue bar which means setting available state.
   Here, you can change each setting value.

T I P!

When you input new project, press “New” button. Then, blue bar, which makes modifying available, will appear even you don’t press “Setting”.

2 Incubation conditions set up on setting part



1 Select the species of birds. If you select the species of birds, the bird's incubation data which is inputted on "Logo" part will be set as setting value. (Temp. humidity, egg-turning angle& interval will be set automatically.)

2 Even if the setting value set up automatically, you can modify each setting value.
Here, you can modify the temperature, humidity, incubation period, and egg-turning angle& interval.
If you check RND, egg-turning angle & interval will get changed every time.

3 Temp. Mode Selecting:
Standard Mode – Progress incubation according to the set value (Temp. & humidity)
Special Mode – Temp. & humidity daily optional setting available, by using incubation graph.

4 Select egg size which you will progress incubation project. (Large, Standard, and Small sized egg)
You can not change the egg size onder incubation.

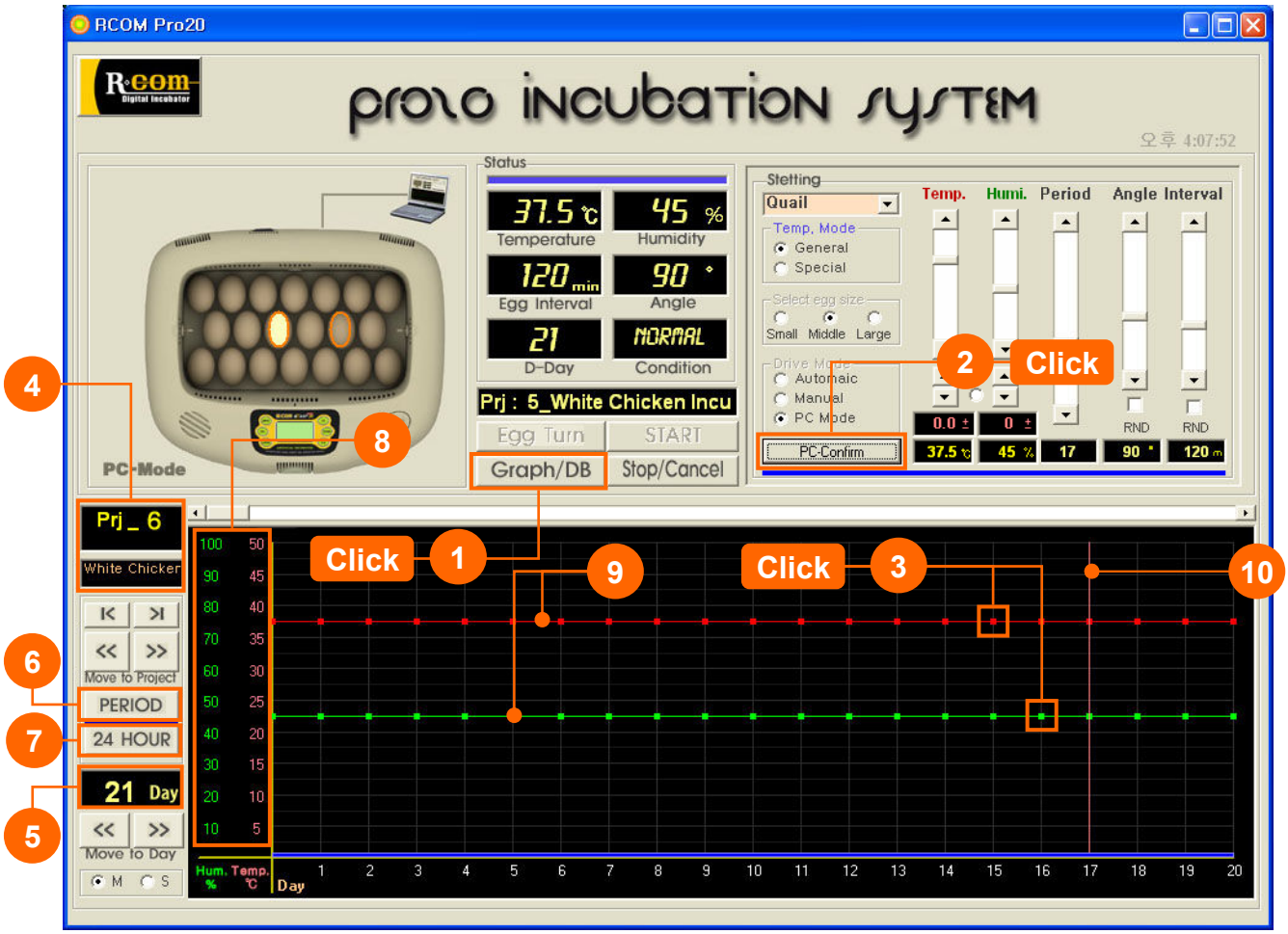
5 Working Mode Selecting :
Automatic mode – It is same with incubator automatic mode. But, it uses PC.
Manual mode – You can change each setting value free, D-Day will be counted up.

PC connecting mode – It is similar with manual mode. D-Day will be counted down.
(All three mode above will be made of DB, when you connect with PC.)

6 Input basic incubation data. After completing the setting, save it.

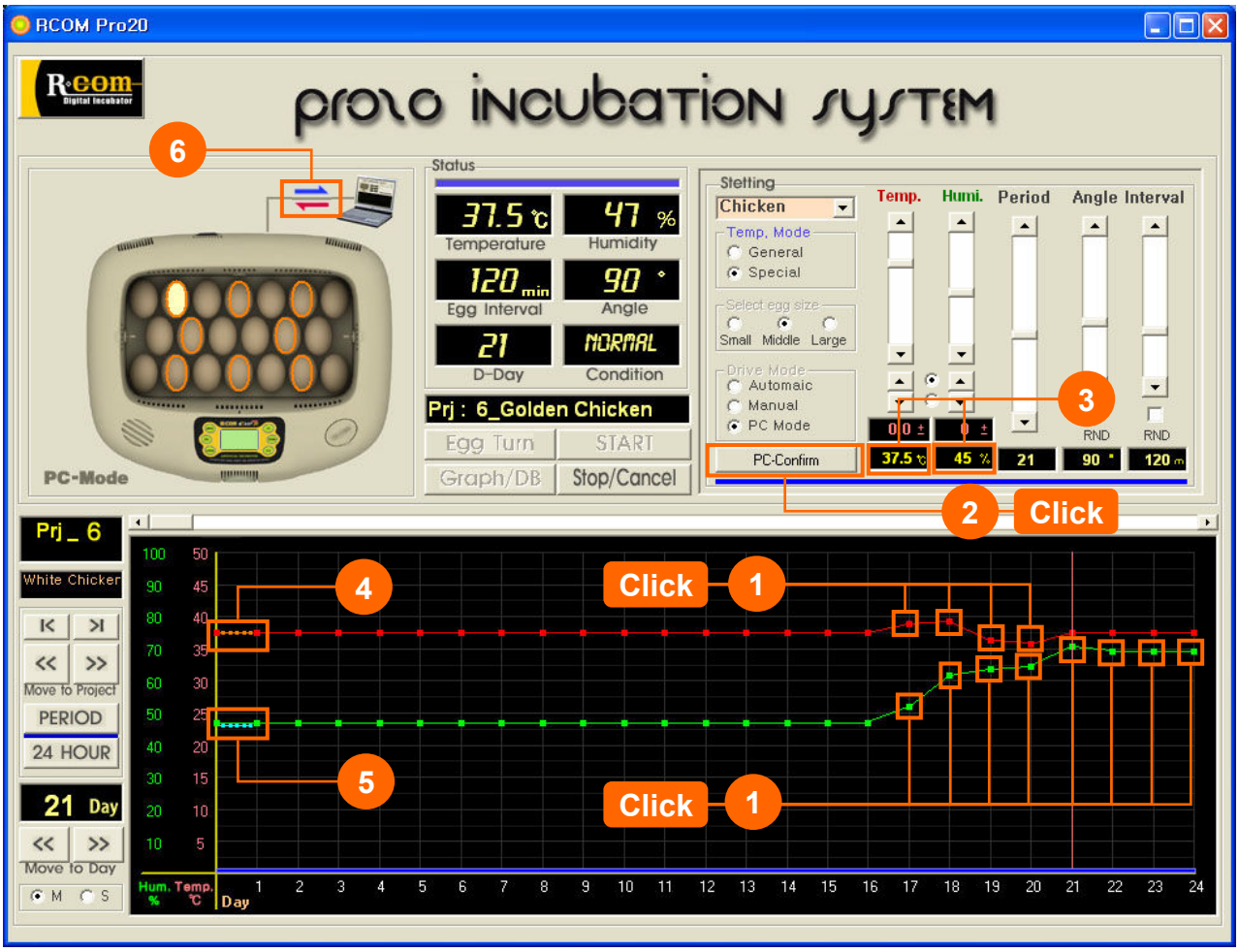
7 If you press this button, it starts incubation with melody within 2~10sec.
If you set the temperature and humidity with special mode, do not start incubation and refer to the next page.

9. Special Mode Setting of Temperature and Humidity



1. If you click “Graph/DB” button, Graph screen will show up.
2. When you press “Setting” button, the button name will be changed by “PC-Confirm”, and blue bar will be indicated for setting.
3. Click Point for controlling temp. &humidity on the date what you want to control.
   If you move your mouse up or down, graph will go with the mouse. Click the Point one more on the position where you want to set. (Refer to the next page.)
4. Indicating the project No. and name on progress.
5. Indicating selected incubation date.
6. You can modify temperature and humidity graph only in “PERIOD” state.
   (“PERIOD” button shows all incubation period.)
7. If you click “24 HOUR” button, you can see a day’s(24hours) temperature & humidity setting value by time.
   If you click the button, it indicates temp. and humidity setting value for 24 hours at intervals of an hour.
8. Blue one is humidity scale mark, and red is temperature scale mark.
9. Red one is temperature setting graph, and blue is humidity setting graph.
   (If you want to control, click setting graph’s Point.)
10. This bar indicates the expected date of hatching. The graph indicates additional 3 days after the expected date.

2 Graph Temp. & Humidity Setting Value Change on Special Mode



1. Click temp. or humidity Point which you want to modify, and move up or down. Then, graph will move together. Now, click your mouse one more time on the modifying position. Temp.& humidity will be set on that position.

2. For modifying temperature or humidity graph value, click Point and move it. Then, it indicates current temp.& humidity change value. (When you move the graph, you can see current temp.& humidity value.)

3. Save temp. &humidity setting value. You can control the temp. & humidity on incubation.

4. If it is on incubation, it indicates real-time temperature changing value with graph.

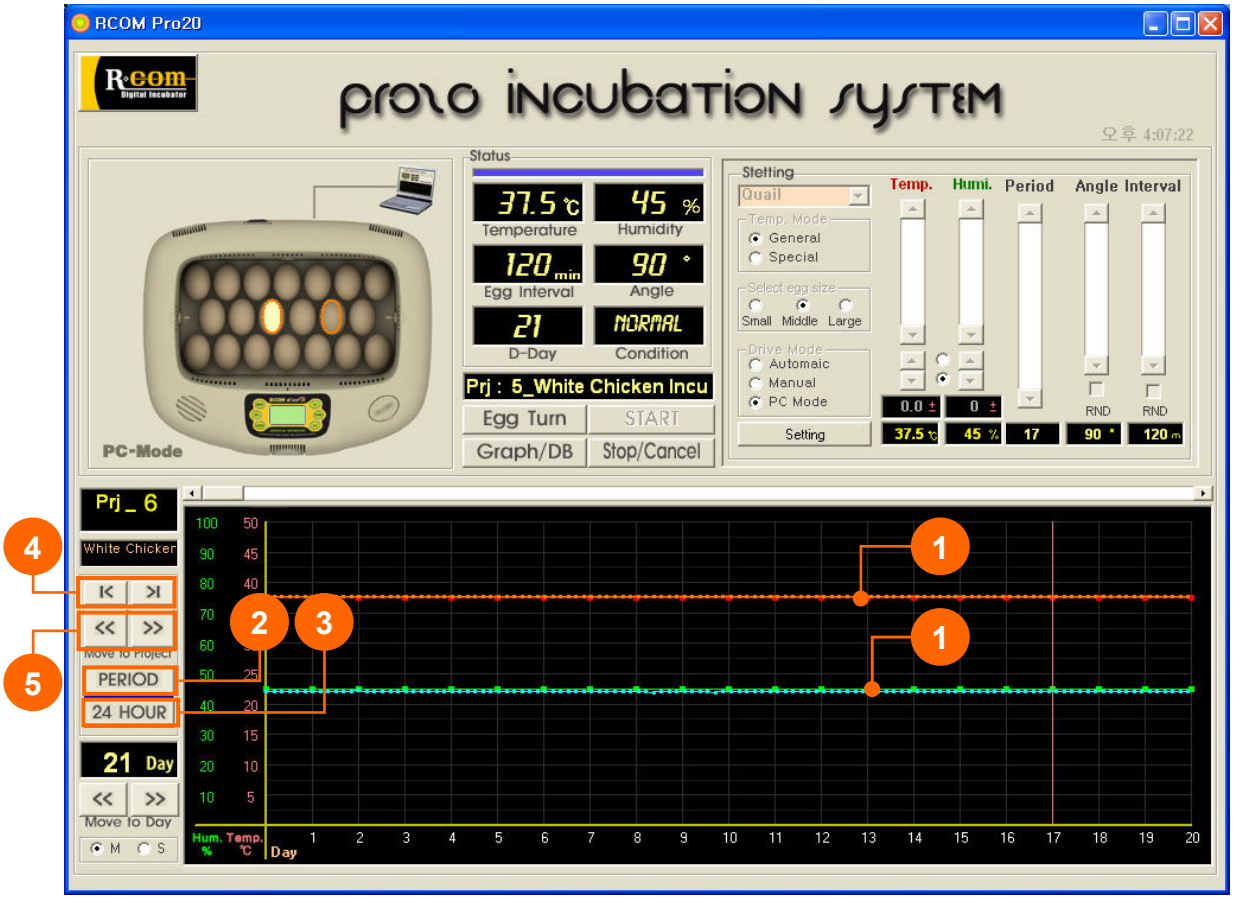
5. If it is on incubation, it indicates real-time humidity changing value with graph.

6. It means that setting temperature & humidity from computer special mode are transmitting to incubator. When you want to terminate program or remove USB connecting cable, be sure to confirm mark is disappeared.

⚠ When you want to stop connection on special mode, wait until icon removed. If not, the operation can cause some problems because setting value does not transmit to the incubator.

10. Real-time Temperature & Humidity Indication

1 Real-time Graph screen - Name explanation



1 It indicates real-time temperature and humidity change value with graph. As temp. or humidity setting graph indicates real-time value, you can check exact declination with the graph.

2 It indicates temp. humidity, and egg turning setting value & change value with graph.

3 It indicates daily temp.& humidity setting value and real-time change value for 24hours per an hour for selected egg.

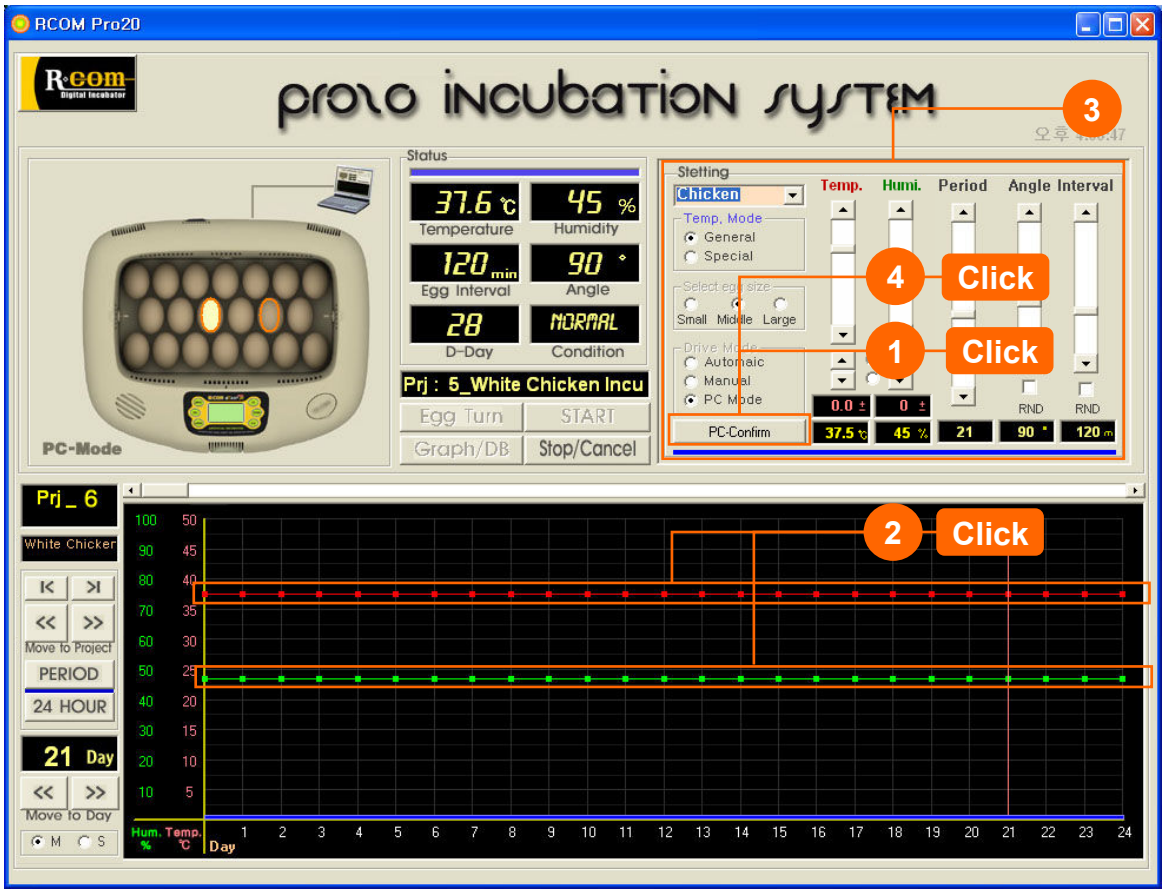
4 Move to the first or the last project.
(Whenever moves, it shows corresponded project's temp.& humidity setting value or real-time change value.)

5 It moves to prior or next project regarding present project as standard.
(Whenever moves, it shows corresponded project's temp.& humidity setting value or real-time change value.)

TIP!

Start incubation from PC and remove the connected USB. After a few hours or a few days, connect the incubator with PC again. Then, all saved temp. & humidity change value will be indicated with graph on PC. (When the incubator is connected with PC, all saved data will transmit to PC.)

11. Setting Change under Incubation



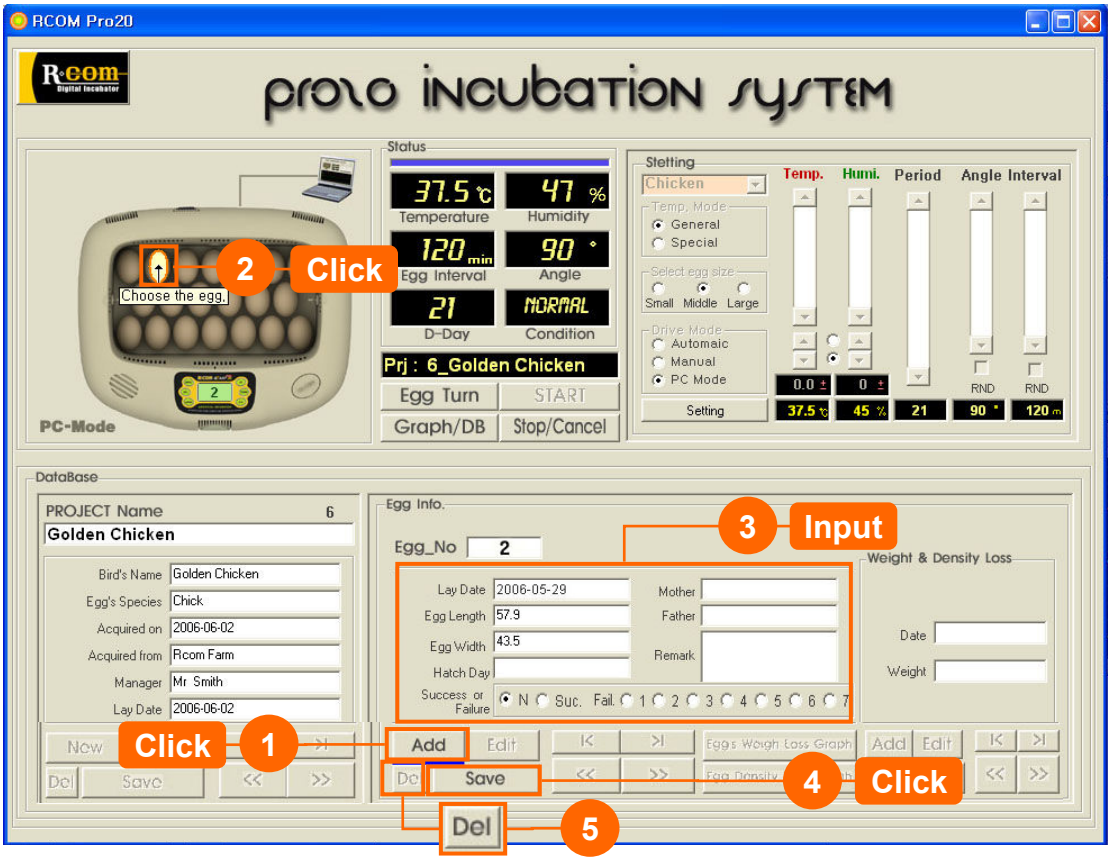
1. Press “Setting” button on “PC-Confirm” (This button converts “Confirm” into ”Setting”)
2. Click the temp.& humidity graph’s Point which you want to modify and move up or down. If you click one more time, temp. & humidity will be set on that position.
3. You can reset the species of birds, Temp. mode, temperature, humidity, incubation period, egg-turning angle & interval. (You cannot modify egg size or working mode under incubation.)
4. Setting and Saving all reset value. And, transmit the data to incubator for execution.

T I p!

If you are going to terminate program or remove USB connecting after changing temperature mode to special mode, you have to confirm that ⇄ mark is disappeared. If not, reset value will not transmit to incubator, and can cause some problems.
Be sure to confirm ⇄ mark is disappeared before terminate program or remove USB.

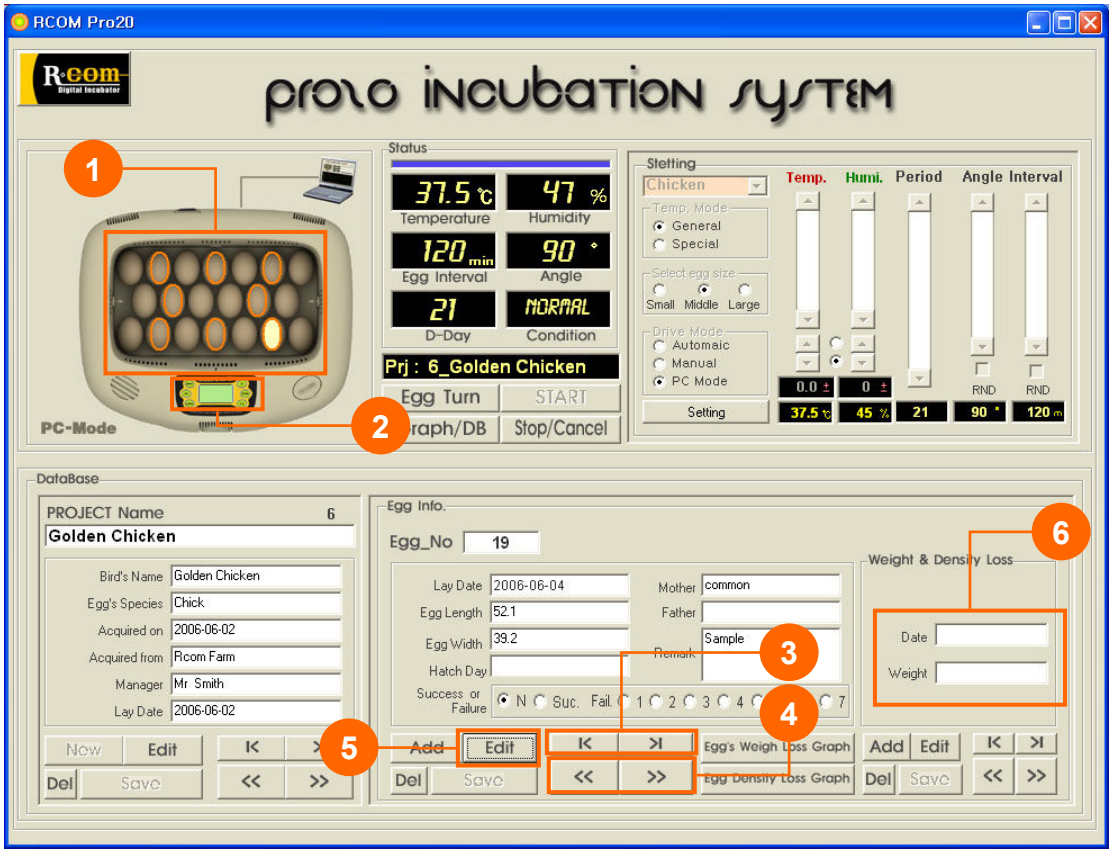
12. Egg Data Management

1 Input Egg Data



1. Press “Add” button for adding egg data.
2. Select the egg which you will input data. Select the egg on incubator picture as above with your mouse. When you select, the egg number will be indicated on “Egg No.” in “Egg Info.” Box.
3. Input egg related basic data. Measure egg length and width with measuring instrument like vernier calipers.
   Input mother bird’s name, species, and remark.
   You can input hatching date or success or failure, after hatching by pressing “Edit” button.
4. Press this button after input egg basic data for saving.
5. Press this button when you want to delete data. All subordinate data will be deleted together.

2 Egg Selecting or Moving



1. If you select an egg for data input, move your mouse on the egg in the left incubator picture as above. Then, the mouse pointer will change like an arrow, and selecting is available. If you select an egg, it changes to yellow color.

2. If you move mouse pointer on an egg, it indicates its egg No.

3. Move to the first or last egg data.
   If there are subordinate data (daily egg weight data), it is connected and move together.

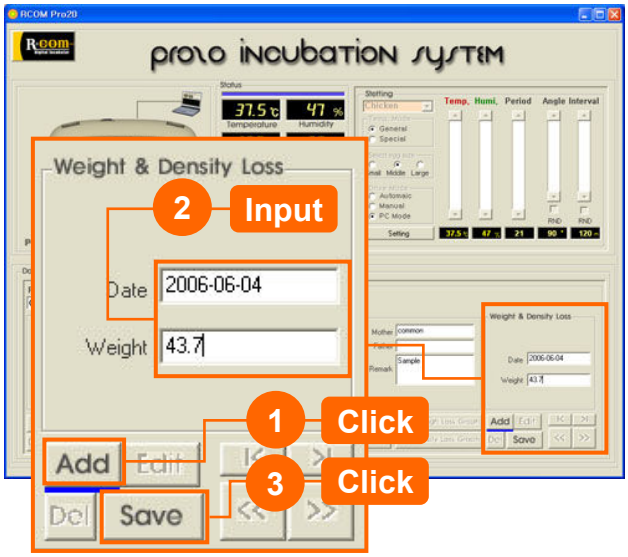
4. Move to prior or next data regarding present egg data as standard.
   In this case, subordinate data (daily egg weight data) will be connected and moves together.

5. You can use this when you modify egg data. Be sure to press “Save” button after modifying.

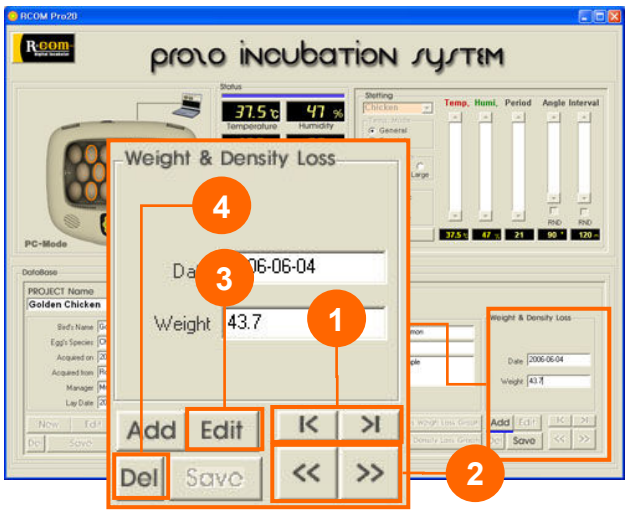
6. Egg weight data. It is connected with egg data.

13. Egg weight & Density Loss Techniques

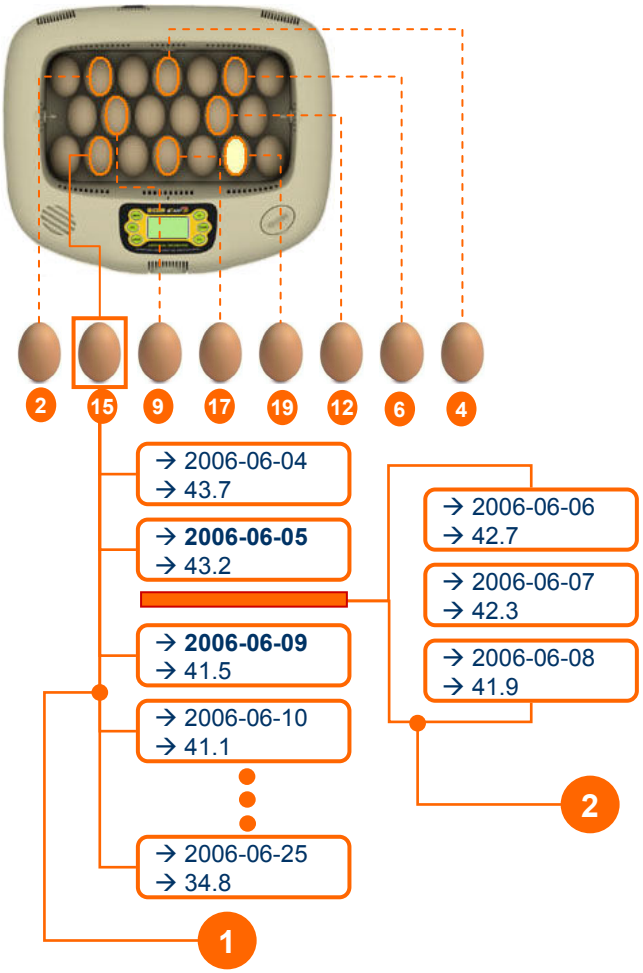
1 Weight Data Input



1. Press before input selected weight data.
2. Input selected egg's daily weight data. Input weight measurement date and figure to one decimal places.
3. Saving data.



1. Move to the first or last egg weight data.
2. Move to prior or next data regarding current data as standard.
3. Modifying inputted egg weight data. Press "Save" button after modifying.
4. Deleting egg weight data.



1. Example of daily weight data during incubation. Even you skip to input egg weight several days, computer automatically calculates and makes data as 2 .
2. It is data which is made from computer. It draws weight or density loss graph with this data.

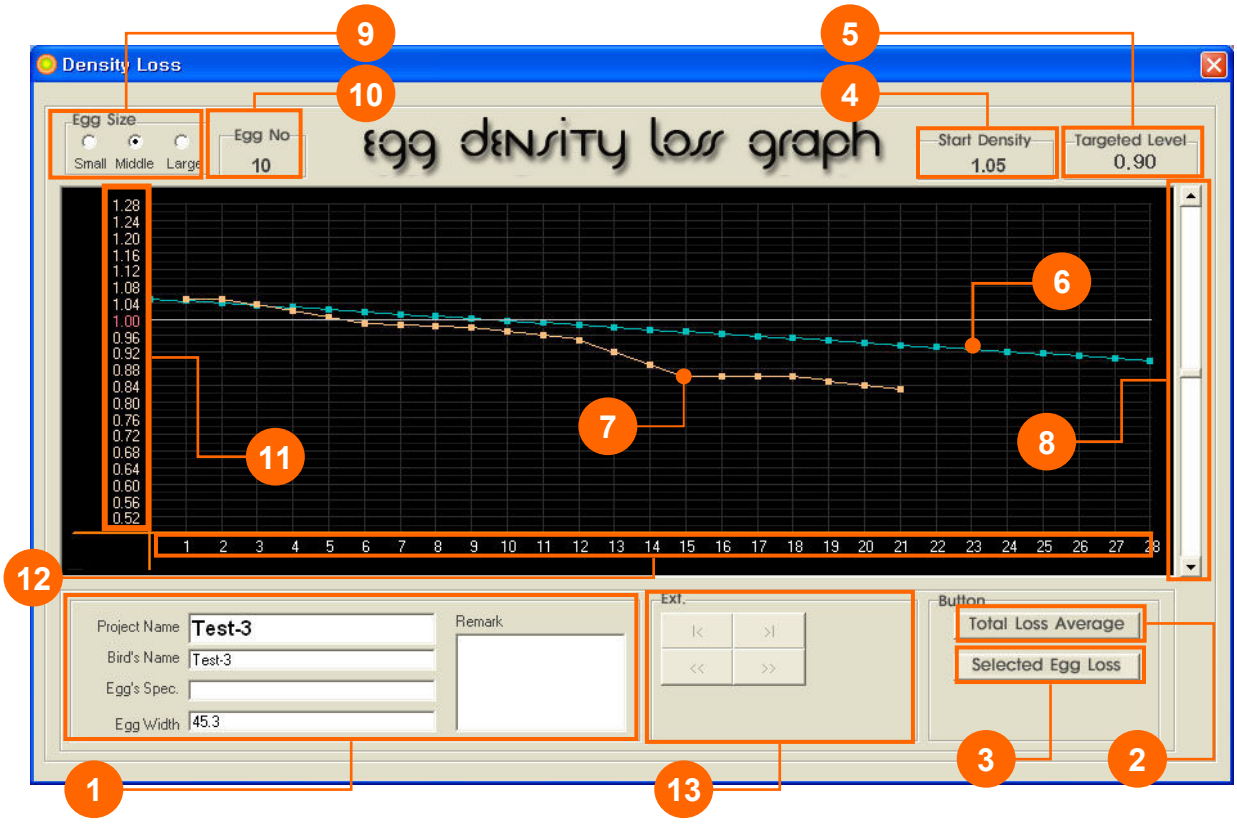
T I P!

Even you skip to input egg weight data during incubation, computer calculates and makes data, and reflects to in weight &density loss.

2 Weight Loss Technique – Name explanation

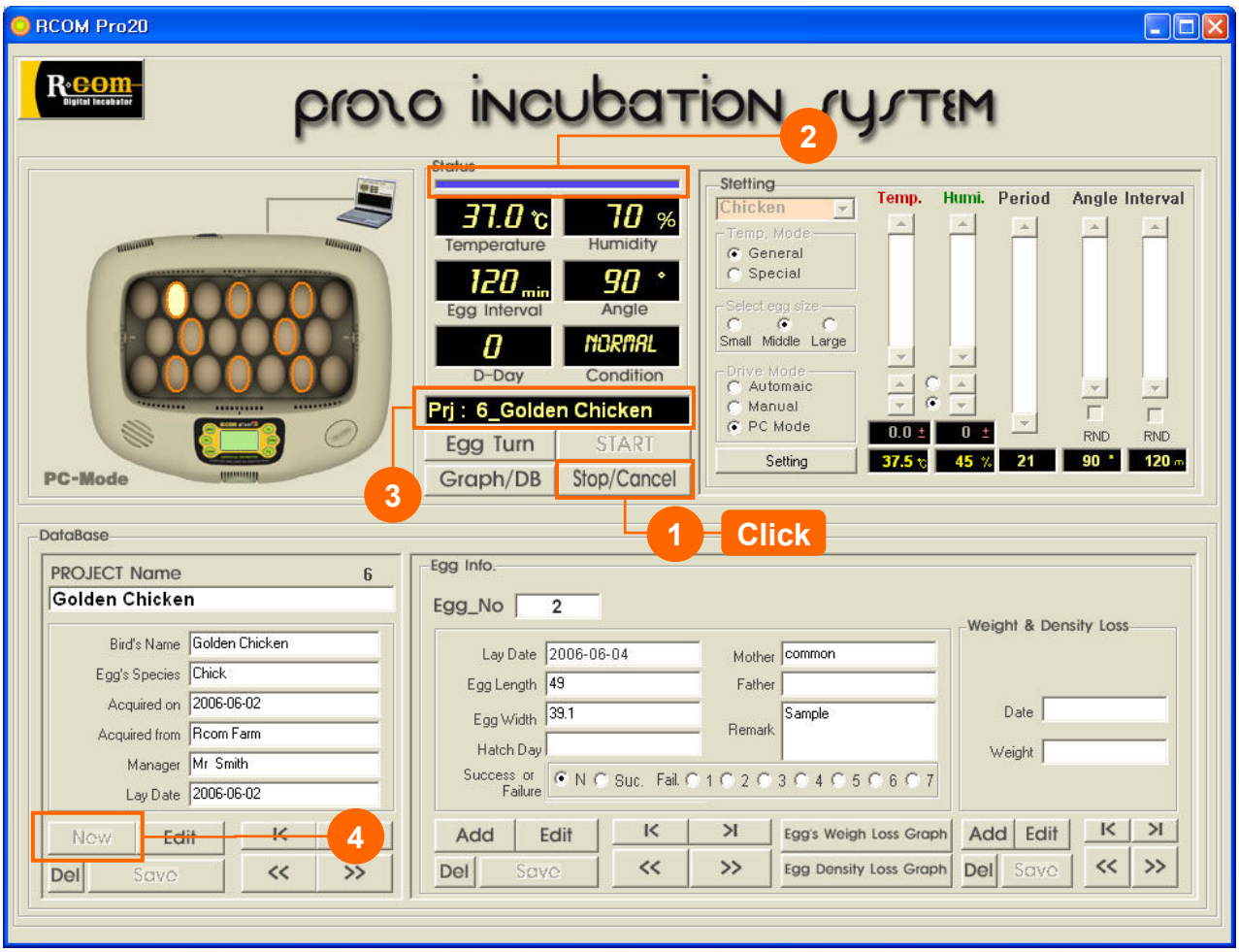
1. Indicating basic data about selected project.
2. All egg's average weight loss graph in the project.
3. Selected egg's weight loss graph in the same project.
4. Initial weigh value.
5. Targeted weight loss value.
6. Weight loss setting graph. You can change the targeted value by using setting bar.
7. Indicating weight loss with graph.
8. You can change the targeted value by setting bar.
9. Indicating selected project egg size.
10. Indicating selected egg No.
11. Weight loss indicating scale. [Unit : %]
12. Indicating incubation date of weight loss graph.
13. It will be upgraded.

3 Density Loss Technique- Name explanation



1. Indicating basic data about selected project.
2. All egg's average density loss graph in the project.
3. Selected egg's density loss graph in the same project.
4. Initial density value.
5. Targeted density loss value.
6. Density loss setting graph. You can change the targeted value by using setting bar.
7. Indicating density loss with graph.
8. You can change the targeted density loss value by setting bar.
9. Indicating selected project egg size.
10. Indicating selected egg No.
11. Density loss indicating scale.
12. Indicating incubation date of density loss graph.
13. It will be upgraded.

14. Terminating Incubation



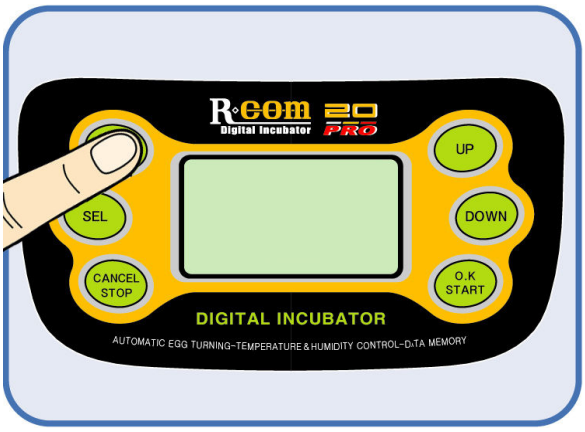
1. This button is for terminating incubation.
   After incubation termination, all incubation data such as real-time value, temperature, humidity, and setting graph etc. will remain as DB. You can use this same conditions later when you want to incubate.

2. After incubation termination, blue Signal bar will be changed to red signal bar and do not flash anymore.

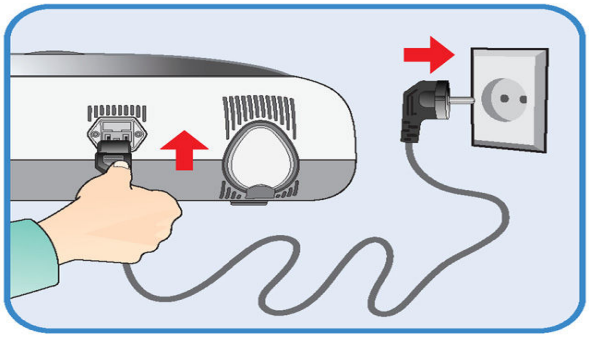
3. Project name will disappear from “Status” of incubator.

4. “New” button will become activate, so that you can input new project.

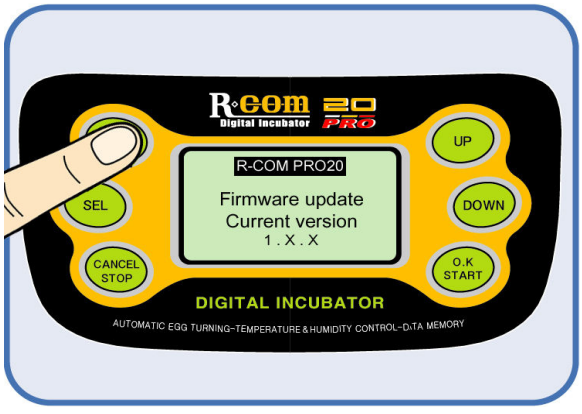
15. Upgrading Firmware



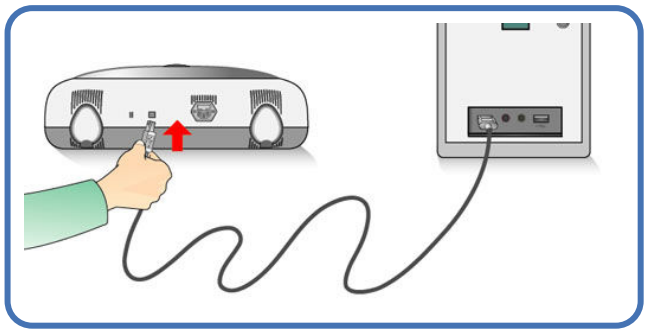
1 Press “MENU” button without power connecting.



2 In the state of pressing “MENU” button, connect The power code.



3 If you press “MENU” button with power supply, “Firmware update” message will show as above. Then, take off your hand from the button.



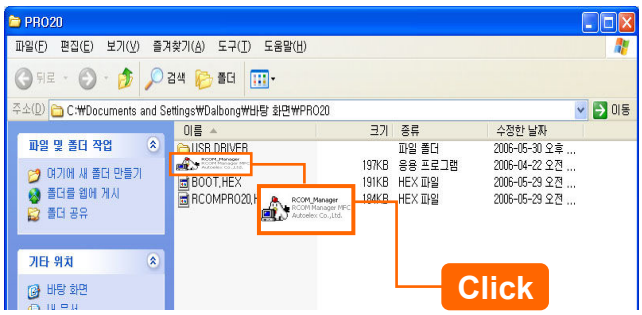
4 Connect the USB port.
When you upgrade firmware, connect USB port Between 1 and 4.
(Generally, 1~4 are at the back side of PC, and USB port No. will change according to the position.)

CAUTION

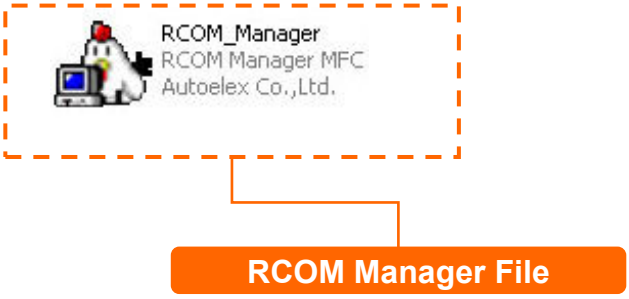
Be sure to install USB driver before upgrading firmware.

CAUTION

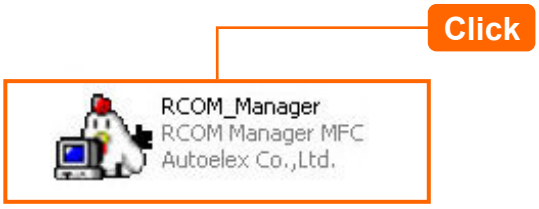
If you operate the computer with firmware upgrade, it doesn’t work. Before upgrading, screen saver has to stop working.
For stop screen saver, press right button of mouse on desktop. Next, enter to Properties. There is a screen saver. Please stop there.



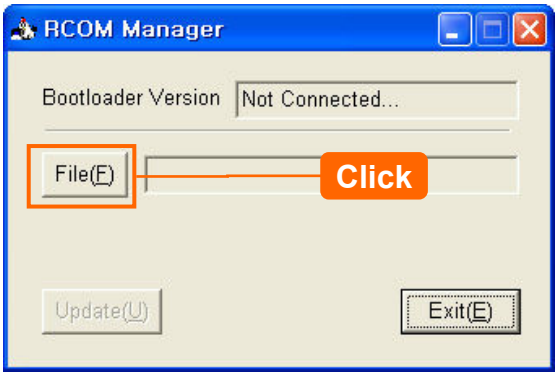
5 It goes to Program CD or downloaded file path. There, click “Rcom_Manager” file.



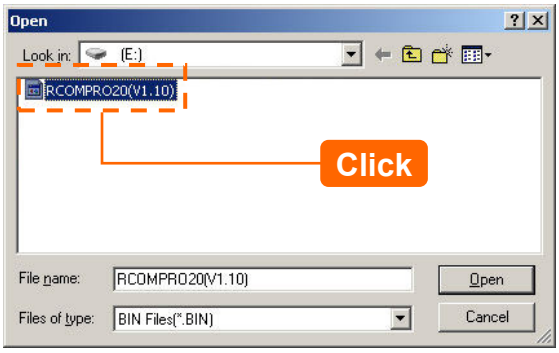
6 Select “RCOM_Manager” file above Window explorer.



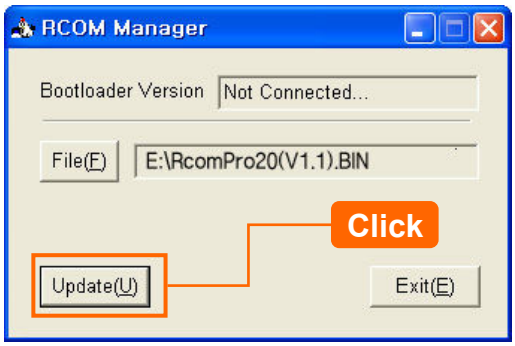
7 Double-click “RCOM_Manager” file.



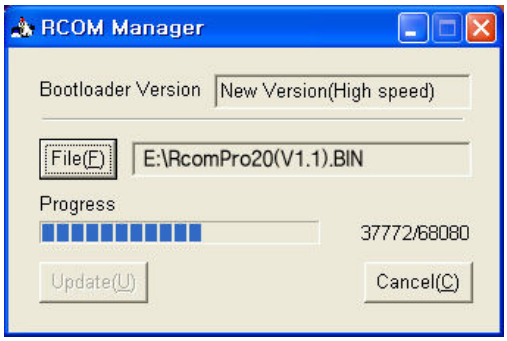
8 The file as above will show.
Click “File”.
(Be sure to check the incubator is connected with PC through USB cable.)



9 Select firmware file with “BIN” extension.
(The name can be different from the version.)

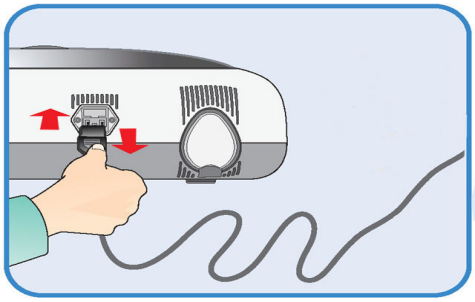


10 Select Firmware file and click “Update(U)” button.



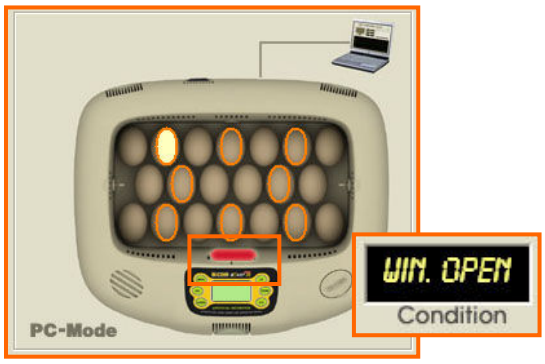
11 Wait a while during updating is on process.
New version Incubator (about 9min. is needed)
Old version Incubator (about 19min. is needed)

12 The message shows,
it means update is normally completed.
Then, it returns to initial condition.
When it failed, error message will show.
In this case, restart from first stage.

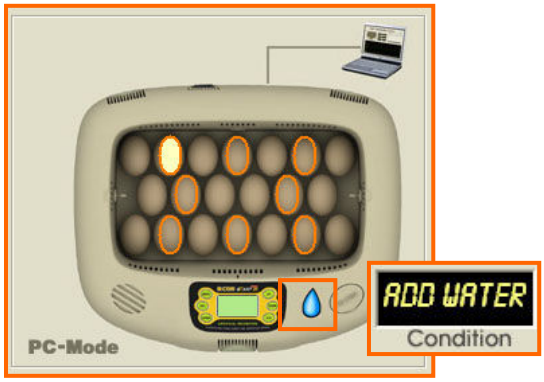


13 For normal operation, unplug the power cord and re-plug again after firmware upgrade completed.

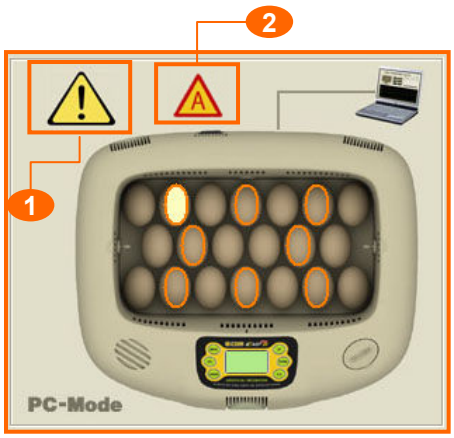
16. Alarms



1 Incubator View Window is opened.
Be sure to cover the window.

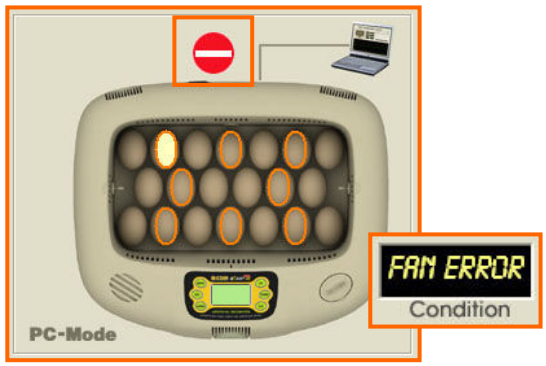


2 Short of water. Please add water.

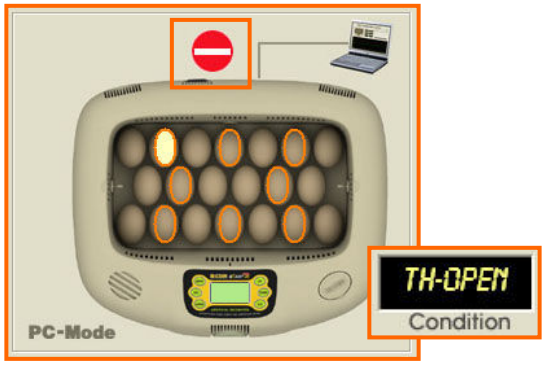


3 1. You started incubation
not from the PC but from the incubator.
In this case, the data can be different from
the incubator.

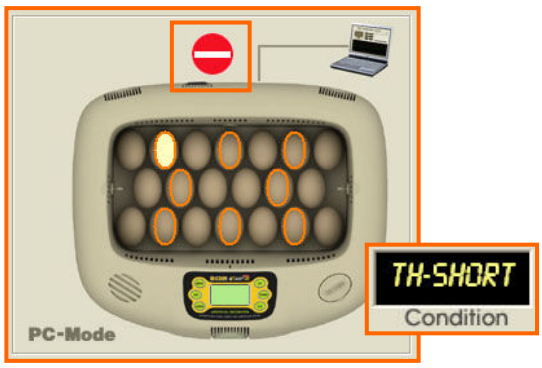
2. When temperature or humidity get out of the limits,
it alarms continuously even if it returns to normal
setting extent.
It only can be cancelled with "Off" button.



4 Some error occurred in air circulation fan.
Please contact to service center.



5 Some error occurred in temperature sensor.
Please contract to service center.



6 Some error occurred in temperature sensor.
Please contact to service center.

17. Troubleshooting

	Circumstance	Solutions
1	Incubator doesn't operate normally on the program.	Take off incubator power cord and cut power supply. Put the power cord again after 1~2min.
2	Incubation starting alarm sounds more than 2 times.	It can be various from connecting conditions between incubator and PC. But if it repeats continue, try to the solution No.1
3	There is no D-Day display and Bird icon on LCD.	You added new(non registered) species of birds on program logo window. It is normal, and there is no problem. You also can upgrade firmware version later.
4	Weight & Density loss graph is not indicated well.	You did not input exact egg data or the range of data goes off the rails.
5	You connected the incubator with computer, but the connecting mark is not appear.	When you use the incubator first time, the computer does not connect with computer at once, and find computer connecting port automatically. It takes about 1~2 min. After it finds connecting port once, it directly recognize the port later. Without power supply, the connecting sign does not show.
6	The temperature and humidity is not applied normally.	This case can occur when you terminate the program or remove USB cable before all temperature or humidity data transferred to the incubator. When you want to terminate the program or remove USB cable, be sure to check this sign is disappeared.
7	Incubator humidity cannot meet the setting humidity value, and real-time graph draws irregularly.	Short of water or humidification pad does not have enough absorbing power because of impurity on the water. In this case, boil the humidification pad on the water diluted with 10% of vinegar.
8	Real-time temperature and humidity graphs are not indicated.	Even if the connection of USB cable is removed or the program is terminated on incubation, the incubator keep the change of temperature and humidity and transmit to PC when it connected. During transmitting, the graph can not appear.
9	The computer data is different from incubator data.	The incubator data can different from computer data when you started incubation not from computer but from incubator.

Incubation condition data which is input on the computer is regular conditions. The conditions can be different from the species of birds or state of birds.

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